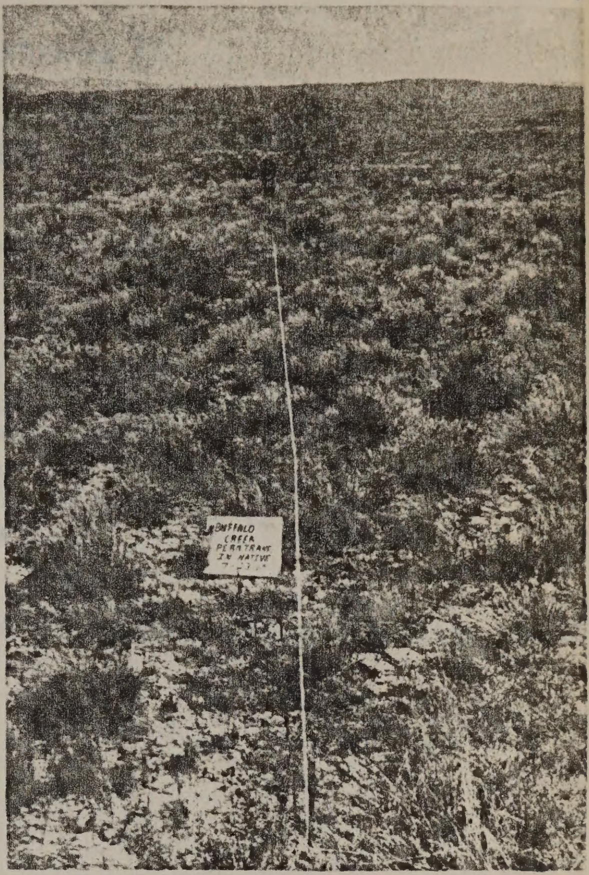
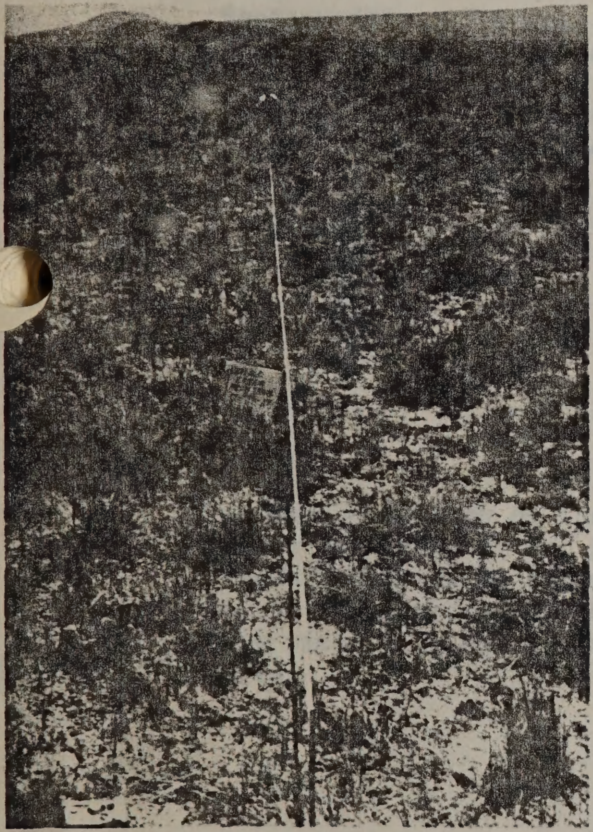
#40795373

ID 88070009

GB
611
.A74
1969

iversity of Wyoming
operative Research Report
the Bureau of Land Management





ANNUAL PROGRESS REPORT
1969

ARID LAND ECOLOGY RESEARCH

~~Phytosociological Measurements on Sagebrush—Grass Ranges~~

ubmitted by Wyoming Agricultural Experiment Station

MAY 19

BLM Library
Denver Federal Center
Bldg. 50, OC-521
P.O. Box 25047
Denver, CO 80225

ARID LAND ECOLOGY RESEARCH [1]
1969 ANNUAL PROGRESS REPORT

by

H. G. Fisser and G. L. Whysong [2]

Table of Contents

Section I - 1 page
Soil moisture and temperature studies - Discussion and 1969 Results

Section II - 2 pages
Soil moisture and temperature studies on microclimate study sites in the Big Horn Basin - Discussion, Location of Study Sites, Procedures, and 1969 Results

Section III - 7 pages
Precipitation Pattern Study

Section IV - 118 pages
Exclosure studies (production, cover, and precipitation phase)

Frontpiece

The photograph of the Bud Kimball Exclosure, located approximately sixteen miles southwest of Ten Sleep, Wyoming depict the vegetational response due to sagebrush spraying and nine years protection from grazing. Removal of sagebrush on a portion of the inside of the exclosure has resulted in doubling the production of western wheatgrass as compared to the inside non-sprayed area.

---

[1] Published with the approval of the Director, Wyoming Agricultural Experiment Station, as Scientific Report No. 178.

[2] Associate Professor of Range Management and Graduate Research Assistant, Range Management Section, University of Wyoming, Laramie, respectively.

SECTION I

SOIL MOISTURE AND TEMPERATURE STUDIES
1969

Introduction

Studies to evaluate soil moisture and temperature characteristics as influenced by sagebrush control and livestock grazing were initiated in 1963. Soil moisture was determined by use of a neutron scattering meter. Permanent metal access tubes, 2" in diameter, were set into the ground to a depth of 5'. The neutron probe measures the amount of water in the soil through an area of about 4' in diameter. Soil temperatures were measured with thermistor probes placed at 8, 15, and 22" below the surface. Lead cables from the buried sensitive elements were connected to a meter for an instantaneous reading of temperature. Surface temperatures were read with a portable probe. At the Smilo and Granite Mountain Exclosures two access tubes were located in each of the following treatments at each study site: Inside Sagebrush Sprayed, Inside Sagebrush Non-Sprayed, Outside Sagebrush Sprayed and Outside Sagebrush Non-Sprayed. At the Cumberland #1 and Cumberland #4 Exclosures three access tubes were placed in each of the two treatments inside the exclosures: Sagebrush Sprayed and Sagebrush Non-Sprayed.

1969 Results

Soil moisture, temperature, and precipitation data were recorded on four dates at the Granite Mountain and Smilo Exclosure during 1969. Precipitation and soil moisture data for the Cumberland #1 and Cumberland #3 Exclosures were taken during the same period.

Due to the acquisition of new neutron probes and metering devices, the conversion factors for determining inches of soil moisture are not yet available. Consequently, the data collected during 1969 will be presented in the 1970 annual report after conversion to a more meaningful form.

Despite the major portion of the spring precipitation occurring in late June, soil moisture values of the upper soil region showed a definite decrease in July as compared to April on all study areas except Smilo. Soil moisture data collected at Smilo for this period indicated no appreciable differences between April and July. Data for the rest of 1969 appeared to follow the same pattern as that from previous years.

Soil temperature data collected in July at the Granite Mountain and Smilo Exclosures appeared lower than would normally be expected which may be attributed to the effect of the late spring precipitation occurring in June.

SECTION II

SOIL MOISTURE AND TEMPERATURE STUDIES ON MICROCLIMATIC STUDY SITES IN THE BIG HORN BASIN
1969

Introduction

Various studies have been made of salt desert areas. Of special interest have been the distinct boundaries between plant communities of almost pure stands of single species. Several workers have shown that certain soil properties are related to these distinct changes in plant communities but no one characteristic in itself is sufficient to cause this change. Each of these studies have hypothesized that the cause is apparently due to plant-soil moisture relationships since these recorded changes involve texture, salts, soil depth, and other soil factors associated with soil moisture. Therefore, a University of Wyoming-Bureau of Land Management cooperative study was initiated in the Big Horn Basin of north central Wyoming in June, 1965, to determine soil moisture-soil temperature regimes of several salt desert plant communities.

Location of Study Sites

The general study area is located on state and federal land in the Big Horn Basin. A map of study site locations was presented in the 1968 Arid Land Ecology Report. Specifically, Study Area I is east of Manderson and contains two study communities; a Nuttall's saltbush (Atriplex nuttallii S. Wats.) community and a big sagebrush (Artemisia tridentata Nutt. subsp. vaseyana (Rydb.) Beetle) community. Area II is east of Highway 20 between Worland and Manderson and contains three study communities; a saltbush community, a big sagebrush community, and a bud sagebrush (Artemisia spinescens D.C. Eat.) community. Areas III and IV are located on the 15 Mile Creek drainage northwest of Worland. Area III is adjacent to the experimental steer pastures and has two study communities, a saltbush community and a birdfoot sagebrush (Artemisia petatifida Nutt.) Area IV has two study communities, a saltbush community and a spiny hopsage (Grayia spinosa (Hook) Msq.) community. Area V is northeast of Area II and contains a saltbush community and a winterfat (Eurotia lanata (Pursh) Msq.) community. This last mentioned area was installed in June, 1966, the others during June, 1965.

Procedures

Three steel tubes, two inches in diameter, were installed to 5 feet at varying intervals within each plant community for soil moisture determinations. These determinations are made by neutron scattering instrument at 6, 12, 18, 24, 36, 48, and 60 inch depths within each tube. Recordings were made monthly during the winter and twice monthly during the growing season of 1967. During 1968, data were recorded four times in coordination with rain gauge readings. These recordings were converted to inches of water per one foot of soil by use of the Philco 2000 computer.

Soil temperature measurements were read each time soil moisture recordings are made. Soil thermistors and a temperature sensing probe were used to record temperatures at 1, 8, 15, and 22 inch depths as recorded from a Tele-thermometer.

Precipitation was determined by use of can type gauges. Recordings are made each time soil moisture and soil temperature determinations are measured.

1969 Results

Analysis of the data is not being attempted in this report. Mr. Robert Steger is to prepare a detailed report of the data in terms of causating factors influential to the variation of shrub types in the area.

Due to the acquisition of new neutron probes and metering devices, the conversion factors for determining inches of soil moisture are not yet available. Consequently, the data collected during 1969 will be presented in the 1970 annual report after conversion to a more meaningful form.

Despite the major portion of the spring precipitation occurring in late June, soil moisture values of the upper soil region showed a definite decrease in July as compared to April on the following vegetation types: bud sagebrush, birdfoot sagebrush, and sping hopsage. An increase in soil moisture in July was apparent on the Nuttall's saltbush, big sagebrush and winterfat vegetation types. Data for the remainder of 1969 appeared to follow the same general pattern as that from previous years.

Generally, the soil temperature data collected in July appeared lower than would normally be expected for this period. Effects of the late spring precipitation may have caused soil temperatures to remain lower than expected.

SECTION III

PRECIPITATION PATTERN STUDY 1969

Introduction

During 1960 over 70 gauges were installed at 6 to 12 mile intervals throughout the Big Horn and Wind River Basins. Since that time approximately 20 gauges in the Big Horn Basin have been discontinued and some 60 gauges have been installed at various exclosures and study sites throughout western Wyoming. These gauges are simple cans, 12" in height and approximately 2.75" in diameter. This diameter allows reading of precipitation by merely pouring the water into a 100 ml cylinder, and converting ml readings to inches of rainfall. One hundred ml is equal to 1" of precipitation. The gauges are read on the same four dates each year--April 15, July 1, September 1, and October 15. Personnel of the Worland, Lander, Rawlins, Casper and Rock Springs Districts of the Bureau of Land Management cooperate with the University in reading the instruments. Some of the gauges are read by personnel of the Soil Conservation Service and the Wyoming Game and Fish Commission.

The weather bureau and the U.S. Geological Survey precipitation data are used to provide additional information from independent locations. This cooperative effort provides an effective network for future evaluation of precipitation patterns. A map of precipitation gauge locations was presented in the 1963 report.

1969 Results

Precipitation data for 1969 from the University gauges are presented in Table I; those from the U.S. weather bureau stations are presented in Table II.

Precipitation during the winter period October 15, 1968 to April 15, 1969, in general, ranged from one to three inches in the low elevation arid regions and from three to six inches at the higher elevations.

Spring precipitation from April 15 to June 30 was generally greater than the previous year with areas receiving from three to an excess of four inches. The major portion of the spring precipitation occurred during the latter portion of June. As a result cool-season perennial grasses, annual grasses, and forbs experienced an early dry period which tended to cause restricted growth and early maturation. In addition, the presence of herbacious annuals of all types was reduced over that observed for the previous two years. Perennial warm-season grass species demonstrated a greater ability to utilize the late spring moisture.

Summer precipitation during July and August was less than the previous two years. This combined with warm summer temperatures tended to limit the beneficial effect of the high spring precipitation on perennial grass species.

Fall precipitation, from September 1 to October 15, was somewhat less than usual with most areas receiving less than one inch ; some regrowth occurred, but in general was minimal.

Table 1. Precipitation data for 1969 from University of Wyoming gauges for the periods: October 15-April 15 (winter), April 15-July 1 (spring), July 1-September 1 (summer), and September 1-October 15 (fall).

Rain Gauge Number	County	Rain Gauge Name	Precipitation Periods				1969 Total	Long Term Avg.	No. of Yrs.
			Winter	Spring	Summer	Fall			
123	Big Horn	Big Flat Exclosure	1.50	3.98	.71	.22	6.41	7.16	2
24		Halogeton Pastures	.98	4.97	.39	.60	6.94	5.45	10
12		Horse Creek	2.70	6.00	1.10	1.00	10.80	11.93	9
113		Horse Haven Exclosure	1.55	4.77	.47	.25	7.04	7.92	3
21		Kane Deer Exclosure	2.79	10.40	.74	1.82	15.75	13.00	5
149		Kane G.R.I. Exclosure	2.84	11.00	.78	1.73	16.35	16.73	2
116		Kane Seed Exclosure	1.68	6.14	.58	.64	9.04	8.45	2
148		Medicine Lodge G.R.G. Exc.	4.00	8.17	.28	1.60	14.05	16.02	2
23		Sheep Springs	3.44	9.60	.68	.79	14.51	14.48	9
112		Shell Study Area	2.01	5.55	.75	.34	8.65	8.63	3
27	Carbon	Little Robber #5	4.84	3.64	1.11	.85	10.44	9.96	8
127		Oppenhiemer (RG#4)	4.15	2.41	1.22	1.61	9.39	8.84	2
128		Oppenhiemer Exc. #1 (RG#5)	4.74	2.88	1.04	2.20	10.86	9.99	2
129		Oppenhiemer-C (RG#6)	3.93	2.50	.87	1.78	9.08	8.26	2
124		Poison Butte Exc. #1 (RG#1)	5.24	3.18	1.43	2.14	11.99	11.34	2
125		Poison Butte Exc. #2 (RG#2)	5.93	3.02	1.56	2.31	12.82	11.95	2
126		Poison Butte Exc. #3 (RG#3)	4.56	2.83	1.33	2.25	10.97	9.74	2
130		Powder Rim-C Exc. #1 (RG#7)	4.21	2.40	.91	1.45	8.97	8.01	2
26		Red Wash #1	3.76	2.85	1.51	.75	8.87	8.76	8
25		Red Wash #3	3.35	2.86	2.08	.80	9.09	9.01	8
52	Fremont	Alkali Flats	2.05	3.18	.62	.30	6.15	8.62	9
5		Ant Plot Exclosure (Lander)	2.30	4.84	.12	.72	7.98	8.59	9
157		Bar X	3.03	2.28	.32	.52	6.15	6.15	1
89		Birdseye Ranch	3.05	3.83	.40	.56	7.84	8.24	6
10		Boysen Reservoir Exclosure	1.00	2.50	.27	.38	4.15	4.83	10
85		Bridger Creek	1.51	4.97	.61	1.00	8.09	11.31	7
49		Canyon Creek	1.86	2.85	.30	.53	5.54	8.41	8
59		Carter Divide Exclosure	3.30	4.17	.41	.37	8.25	8.13	9
88		Comet Mine	6.70	5.56	.66	1.16	14.08	11.43	7
60		Dishpan Butte #1 Exclosure	4.11	2.33	.05	.78	7.27	10.00	8
61		Dishpan Butte #2 Exclosure	5.17	4.04	.20	.45	9.86	9.28	8
86		Dry Creek	1.81	2.70	.60	.15	5.26	7.29	9
58		Empty Cartridge	1.80	3.60	*.35	.38	6.13	7.85	7
55		Fraser Seed Plot	1.87	4.07	*.40	.08	6.42	8.26	7

*estimate

Table 1. Continued

Rain Gauge Number	County	Rain Gauge Name	Precipitation Periods				1969 Total	Long Term Avg.	No. of Yrs.
			Winter	Spring	Summer	Fall			
48	Fremont	Fuller Seed Plot	2.57	4.05	.23	.64	7.49	8.56	9
46	(cont.)	Gibbs Butte	1.83	3.02	.25	.45	5.55	7.21	9
6		Granite Mountain	2.36	4.22	.45	.90	7.93	8.60	6
62		Hall Creek Divide Exc.	2.25	4.58	.10	1.12	8.05	11.09	9
87		Hoodoo Creek	1.40	2.80	.05	.00	4.25	6.00	9
64		Hudson	2.97	4.30	.10	.46	7.93	8.71	9
68		Johnson	1.35	1.80	.91	.18	4.24	7.75	7
63		Little Popo Agie	3.25	4.96	.45	.41	9.07	10.95	9
56		Logan #1 Exclosure	2.60	4.36	2.82	.42	10.20	8.73	9
57		Logan #2 Exclosure	2.25	4.33	.29	.36	7.23	8.41	9
16		Lower Gov't. Draw	2.97	4.44	.05	.45	7.91	10.21	9
81		Mack Ranch	2.50	3.43	1.05	.38	7.36	7.69	7
67		Madden	3.09	3.10	.39	.60	7.08	10.93	8
1414		McGraw	4.95	3.63	.33	.98	9.89	9.31	9
47		Muskrat Creek	1.27	4.24	.10	.30	5.91	6.94	8
50		Muskrat #5 Exclosure	3.15	3.68	.72	.32	7.87	8.34	9
51		Poison Creek	1.83	3.85	.82	.60	7.10	8.04	7
80		Poison Draw	1.53	2.93	.84	.18	5.48	7.70	9
65		Sand Draw	3.55	4.09	.30	.05	7.99	8.34	8
11		Sweetwater							
9		Upper Gov't. Draw	3.67	3.32	.08	.63	7.70	8.01	9
117	Hot Springs	Big Bend Exclosure	3.23	3.92	.21	.52	7.88	9.47	2
76		Cochran Exclosure	3.25	3.35	.33	.51	7.44	10.31	9
77		Kirby Creek	3.15	3.66	.36	.62	7.79	8.84	7
111		Lower Enos Creek	1.98	4.36	2.05	.78	9.17	10.40	2
22		LU Juniper Study	3.81	6.26	1.93	1.47	13.47	15.32	4
75		Sand Gulch Exclosure	3.51	3.19	.33	.49	7.52	9.21	8
32	Lincoln	Cumberland #2	4.65	3.00	1.43	.88	9.96	9.31	6
33		Cumberland #3	6.22	2.45	1.20	1.49	11.36	10.86	6
35		Elk Mountain Pit.	5.28	3.40	1.15	.66	10.49	8.65	5
143	Natrona	Arminto Exclosure	2.83	2.35	.10	.75	6.03	10.07	3
109		Bolton Creek Exclosure	*3.00	*3.00	1.55	1.57	9.12	9.12	1
141		Donkin Exclosure	3.09	2.35	.50	.45	6.39	8.21	2
110		E K Exclosure	2.83	2.35	.10	.75	6.03	10.07	3
142		Merino Exclosure	3.00	2.45	.65	.50	6.60	9.03	2
108		Mud Springs Exclosure	3.90	3.75	*1.20	2.10	10.95	10.82	2
107		Owl Draw Exclosure	3.45	3.00	.60	1.70	8.75	9.15	3

*estimate

Table 1. Continued

Rain Gauge Number	County	Rain Gauge Name	Precipitation Periods				1969	Long Term	No. of
			Winter	Spring	Summer	Fall	Total	Avg.	Yrs.
144	Natrona	Poison Spider Exclosure	3.00	*3.00	.40	.65	7.05	7.29	2
106	(cont.)	Stinking Creek	3.20	*3.00	.30	.95	7.45	9.04	3
147	Park	Big Sage	1.90		3.25	.88	6.03	6.03	1
146		Big Sky	2.25		*3.80	.80	6.85	6.85	1
100		Buffalo Basin Exc.	2.10	3.57	.93	.55	7.15	11.16	3
145		Hill Top Springs	4.25		4.00	.72	8.97	8.97	1
20	Sweetwater	Black Mountain	3.69	1.67	2.04	.83	8.23	7.41	8
30		Boars Tusk	3.33	2.39	.63	.75	7.10	7.51	9
18		Cedar Mountain Exclosure	3.78	2.68	1.89	1.45	9.80	8.54	8
102		Chandler Simpson Well	1.79	*2.00	.13	.36	4.28	4.78	2
103		Daley Hay Corral	1.93	1.47	.37	1.06	4.83	6.12	3
2		Farson	2.92	2.85	.22	.40	6.39	6.49	8
95		Farson Guzzler #1	3.19	2.39	.39	.58	6.55	7.57	5
96		Farson Guzzler #2	3.80	3.42	.10	.44	7.76	8.48	5
97		Farson Guzzler #3	3.56	2.32	.37	.50	6.75	7.10	5
98		Farson Guzzler #4	3.57	2.04	.54	.73	6.88	7.58	5
99		Farson Guzzler #5	3.16	2.70	.25	.38	6.49	7.11	5
122		Firehole Guzzler #10	4.70	1.98	1.54	1.30	9.52	10.51	2
151		Firehole Guzzler #11	4.51	2.18	1.64	1.73	10.06	10.06	1
152		Firehole Guzzler #12	5.06	2.11	1.18	1.22	9.57	9.57	1
153		Firehole Guzzler #13	6.21	1.95	.82	1.67	10.65	10.65	1
104		J. O. Headquarters	3.18	1.30	.46	1.29	6.23	6.66	4
105		Len Hay Corral	2.88	2.23	.78	1.16	6.50	6.26	4
131		Powder Rim D Exc. (RG#8)	3.92	2.55	.72	1.56	8.75	7.83	2
132		Powder Rim D-C (RG#9)	4.10	2.96	1.20	1.70	9.96	8.54	2
133		Powder Rim D-C-B (RG#10)	3.18	2.88	1.16	1.51	8.73	7.51	2
134		Powder Rim D-B (RG#11)	2.85	2.78	1.65	1.57	8.85	7.86	2
135		Powder Rim B-Stateline(RG#12)	4.07	3.45	1.74	1.97	11.23	10.07	2
136		Powder Rim B Exc. #1 (RG#13)	3.68	2.53	1.40	1.56	9.17	8.68	2
137		Powder Rim B Exc. #2 (RG#14)	5.20	2.92	2.35	2.47	12.94	11.85	2
138		Powder Rim A-B (RG#14)	3.92	3.11	2.79	2.30	12.12	10.59	2
139		Powder Rim A-Exc. #1 (RG#16)	4.69	2.82	1.76	1.60	10.87	9.91	2
140		Powder Rim A (RG#17)	3.20	2.36	1.86	1.97	9.39	8.34	2
118		Power Line Guzzler #6	5.23	3.29	.24	.48	9.24	9.30	2
119		Power Line Guzzler #7	4.58	3.32	.33	.50	8.73	8.92	2
19		Radio Tower	2.17	2.93	1.11	.55	6.76	7.07	9
28		Red Wash #2	3.12	2.50	1.27	.73	7.62	7.41	8

*estimate

Table 1. Continued

Rain Gauge Number	County	Rain Gauge Name	Precipitation Periods				1969 Total	Long Term Avg.	No. of Yrs.
			Winter	Spring	Summer	Fall			
154	Sweetwater	Salt Wells Guzzler #14	4.45	2.46	1.26	1.22	9.39	9.39	1
155	(cont.)	Salt Wells Guzzler #15	4.50	2.23	1.19	1.30	9.22	9.22	1
156		Salt Wells Guzzler #16	4.40	2.74	.70	1.34	9.18	9.18	1
120		Steamboat Guzzler #8	5.98	4.12	.45	.77	11.32	11.11	2
121		Steamboat Guzzler #9	6.59	3.90	.48	.98	11.95	11.35	2
101		Ten Mile Ridge	1.73	2.14	.30	.85	5.02	5.78	4
**Gauges from county received late									
159		Little Bitter Creek Guzzler #17	----	----	.85	1.45	----	----	-
160		Little Bitter Creek Guzzler #18	----	----	1.34	1.36	----	----	-
161		Sage Creek Guzzler #19	----	----	1.33	1.38	----	----	-
162		Little Ame. Guzzler #20	----	----	.87	.75	----	----	-
163		Little Ame. Guzzler #21	----	----	.75	.83	----	----	-
164		Little Ame. Guzzler #22	----	----	.78	.59	----	----	-
165		Little Ame. Guzzler #23	----	----	.75	.73	----	----	-
31	Uinta	Cumberland #1	3.65	3.20	.25	*.85	7.95	8.74	5
34		Cumberland #4	4.03	3.40	.21	.96	8.60	8.40	5
1	Washakie	Ant Hill Worland	1.96	2.64	.50	.37	5.47	6.74	10
150		Big Trails GRI	4.43	6.95	.30	1.07	12.75	14.49	2
41		Bud Kimball Exclosure	3.12	4.70	.05	.40	8.27	9.35	8
7		Buffalo Creek Exclosure	3.26	4.88	.01	1.25	9.40	10.43	8
17		Burnt Wagon	1.36	2.20	.52	.34	4.42	6.29	8
8		Demur	2.80	3.85	.30	.27	7.22	7.91	10
4		Dutch Nick Flat	1.79	2.52	.40	.45	5.16	7.00	9
114		East Worland Study Area	2.07	1.90	.10	.24	4.31	6.92	3
15		15 Mile Study Area	1.52	2.36	.25	.28	4.41	6.48	9
36		Smilo Exclosure	2.47	3.61	.20	.30	6.58	8.36	9
39		2 Mile Hill Exclosure	3.51	4.98	.03	.42	8.94	10.43	9
*13		West Pasture	1.38	*2.30	.15	.00	3.83	6.70	8
115		Worland Cattle Co. Exc.	2.57	2.67	.05	.25	5.54	6.99	2

*estimate

TABLE II. Precipitation data from the U. S. Weather Bureau Stations for the period October 15, 1968 to October 15, 1969.[1]

Station Name	Winter Oct. 15 to Apr. 15	Spring Apr. 15 to July 1	Summer July 1 to Sept. 1	Fall Sept. 1 to Oct. 15	1969 Total[2]	Long Term Average[3]
BIG HORN BASIN						
Anchor Dam	4.27	----	.69	.55	----	----
Basin	2.30	3.30	.97	.32	6.89	6.21
Black Mountain	3.48	4.45	.64	.74	9.31	13.98
Cody 12 SE	2.48	4.54	1.31	.75	9.08	12.21
Deaver	.61	3.92	.38	.76	5.67	5.21
Emblem	1.91	5.33	.69	.48	8.41	6.55
Grass Creek	----	2.76	1.08	.29	----	10.87
Greybull 1 S	2.07	3.38	.67	.28	6.40	6.07
Heart Mountain	1.92	4.10	.83	.80	7.65	7.28
Lovell	1.85	5.06	.36	.87	8.14	6.92
Powell	.72	4.69	.88	.56	6.85	5.67
Reirdon 2 WSW	2.39	3.12	.44	.27	6.22	6.11
Shell	2.27	5.34	.40	.69	8.70	8.43
Tensleep 4 NE	3.04	8.55	.46	.99	13.04	13.16
Tensleep 16 SSE	4.49	6.54	.38	1.23	12.64	13.72
Thermopolis 2	2.85	4.20	.16	.57	7.78	11.01
Thermopolis 25 WNW	3.28	4.64	.83	.54	9.29	11.15
Worland	2.01	3.60	.27	.21	6.09	7.76
Worland FAA AP	2.38	3.27	.20	.26	6.11	7.76
WIND RIVER BASIN						
Arminto	----	----	---	----	----	----
Boysen Dam	2.94	4.85	.55	1.22	9.56	9.05
Diversion Dam	1.33	3.59	---	.29	----	9.45
Fort Washakie 2S	----	6.87	.06	.49	----	11.90
Gas Hills 4E	2.71	3.17	.61	.58	7.07	8.75
Lander WB AP	4.07	6.95	.07	1.08	12.18	13.58
Lost Cabin	2.29	3.53	.30	.35	6.47	9.25
Morton 1 NW	----	----	---	----	----	8.96
Pavillion	1.42	2.31	.13	.02	3.88	8.67
Riverton	2.58	3.64	.26	.36	6.84	8.79
Sand Draw	4.28	4.43	---	.80	----	9.58
Shoshoni	1.85	4.19	.88	.15	7.07	6.67
SOUTHWEST WYOMING						
Farson	2.88	3.52	.70	.84	7.94	7.11
Kemmerer	3.77	----	---	.51	----	9.12
Rock Springs	4.15	2.47	.65	.84	8.11	7.87
Rock Springs FAA AP	5.05	3.49	.88	1.06	10.48	8.68
Wamsutter	2.33	----	.55	.57	----	6.51
Muddy Gap	2.65	1.31	.24	.52	4.72	9.32
Rawlins FAA AP	4.26	3.91	.22	1.26	9.65	10.43

---

[1] eather Bureau, 1968-1969. Climatological Data- Wyoming. U.S. Dept. of Commerce ls. 77 and 78.

[2] Computed for the period October 15, 1968 to October 15, 1969.

[3] Weather Bureau, 1968. Climatological Data - Wyoming Annual Summary. U.S. Dept. of Commerce. Vol. 77, No. 13 and John Alyea, U.S. Weather Bureau, Cheyenne.

SECTION IV

EXCLOSURE STUDIES (PRODUCTION, COVER, AND PRECIPITATION PHASE)

1969

Vegetation production studies on exclosures and relic areas of the Big Horn and Wind River Basins were initiated during the 1962 field season. Most of the exclosures were constructed in 1959 and 1960. The objectives of the program were to determine:

1. the relationship of annual herbage production to area cover percentage;
2. the relationship of annual herbage production changes to variations in time and amount of available moisture;
3. the relationship of plant height of major forage species to annual herbage production and to time and amount of available moisture;
4. the influence of several range improvement practices on herbage production, area cover, and plant height;
5. the relationship of percentage frequency to area cover and herbage production.

Methods and Procedures

Area cover and herbage production studies on sagebrush-grass sites were conducted on transects of 20 quadrates, 1' x 1', spaced systematically along a randomly located 100' steel tape.

On sites dominated by saltbush, a variation of the sampling technique described in the 1968 results was used to measure herbage production. Twenty 1' x 10' plots were located systematically along a randomly located 100' steel tape. Each 1' x 10' plot was subsampled for vegetative cover using 10 1' x 1' plots. A subjective decision was used to pick the three 1' x 1' quadrates which best described each 1' x 10' plot. Those selected 1' x 1' quadrates were used to subsample herbage production. At the Burnt Wagon Exclosure, herbage production was measured using the above method, the previously described method in the 1968 results, and the weight-unit estimation technique also described in the 1968 results. A discussion of the methods appears in the results section of this report. All subplots in each 1' x 10' were used for application of the weight-unit method.

Area cover of all herbaceous semi-woody and woody species was estimated within each square foot plot. Data of shrub crown cover and basal cover of plains pricklypear, Hood's phlox, and Hooker sandwort were not combined when comparing area cover to herbaceous production since this group of plants were not clipped.

Forage production was determined by clipping herbaceous species at ground or crown level. Exclosures were clipped on or near the same date as the previous years. Clippings were oven-dried at 70°C for 12 hours prior to weighing.

Precipitation data were recorded from simple aluminum rain gauges installed at each exclosure. Precipitation data were recorded four times a year- April 15, July 1, September 1, and October 15.

Metal stakes were driven into the ground for permanent photo location points in the area where production studies are being conducted in each exclosure.

Names of plants which occurred in the production study areas are shown in Table I. Included are the four letter code names by which the plants are identified in the tabular material; genus, species, and common names, and life form and characteristic longevity of the plants.

1969 Results

A list, by counties, of production study areas is presented in Table II of the report. General location of exclosures were shown on maps in the 1964 report. The tabular data of production, cover, frequency, and precipitation are arranged alphabetically by exclosure or study area name following Table II. The tabular data for any saltbush dominated site appears in two tables. The first is a summarization of the data obtained from subsampling herbage production. The second combines measurements from all subsamples with those obtained from herbage production subsampling only to arrive, through an estimation technique, at annual production based on the total number of observations.

Production clipping in 1969 was conducted both inside and outside the exclosures to determine the influence of grazing upon the vegetation during the eight previous years. In some instances large variations in production were noted outside the exclosures as compared to inside. Some areas, however, showed very little difference. At the exclosures where sagebrush spraying had been conducted, the response of understory vegetation to the treatment was easily visable, both inside and outside. Production values were lower in the grazed areas but were greater on the sprayed sites than on the non-sprayed.

Utilization estimates were made of all grass species, at the time of clipping, outside those exclosures where use by livestock was evident. These data were used to adjust herbage production values in order to achieve a more accurate measure of total annual production. Utilization estimates and adjusted production data appear in the tabular listings following Table II.

As a result of the major portion of the spring precipitation occurring during late June, cool-season perennial grasses exhibited restricted growth and early maturation due to dry conditions from April to June. Presence of annual grasses and forbs was less than on the two previous years. All annuals demonstrated low vigor and early maturation. Perennial warm-season grasses were benefited by the late spring moisture, but this effect was dampened by warm summer temperatures in combination with low precipitation.

A preliminary comparison of the three methods used to sample herbage production inside the Burnt Wagon Exclosure indicated that, for the dominant species, subjective sampling with a total of 60 subplots per transect gave production estimates within 11% of that achieved from sampling all 200 subplots. The weight-unit estimation technique demonstrated the least accuracy, giving production estimates to within 15% of that obtained from sampling all 200 subplots. For these comparisons, the data obtained from sampling all 200 subplots was considered the best estimate of herbage production. The principle advantage of the subjective subsampling procedure is that it allows a more rapid means of sampling herbage production and should give fairly accurate results if bias can be held to a minimum.

TABLE I. LIST OF PLANT NAMES WHICH OCCURRED IN PRODUCTION STUDY AREAS

Code	Genus--Species	Common Name	Life Form	Longevity
AGCR	Agropyron cristatum	Crested Wheatgrass	Grass	Perennial
AGGL	Agoseris glauca	Pale agoseris	Forb	Perennial
AGSM	Agropyron smithii	Western wheatgrass	Grass	Perennial
AGSP	Agropyron spicatum	Bluebunch wheatgrass	Grass	Perennial
ALTE	Allium textile	Textile onion	Forb	Perennial
ANRO	Antennaria rosea	Rose pussytoes	Forb	Perennial
ARAR	Artemisia arbuscula	Low sagebrush	Shrub	Perennial
ARCO	Arenaria congesta	Ballhead sandwort	Forb	Perennial
ARFR	Artemisia frigida	Fringed sagewort	Half-Shrub	Perennial
ARHO	Arenaria hookeri	Hooker sandwort	Forb	Perennial
ARHO2	Arabis holboellii	Holboell rockcress	Forb	Perennial
ARNO	Artemisia nova	Black sagebrush	Shrub	Perennial
ARPE	Artemisia pedatifida	Brown sagebrush	Half-shrub	Perennial
ARSP	Artemisia spinescens	Bud sagebrush	Half-shrub	Perennial
ARTR	Artemisia tridentata	Big sagebrush	Shrub	Perennial
ASMI	Astragalus missouriensis	Missouri milkvetch	Forb	Perennial
ASMI2	Astragalus miser	Timber milkvetch	Forb	Perennial
ASPU	Astragalus purshii	Pursh loco	Forb	Perennial
AST	Astragalus spp.	Milkvetch	Forb	Perennial
ATAR	Atriplex argentea	Silverscale saltbush	Forb	Annual
ATCO	Atriplex confertifolia	Shadscale saltbush	Shrub	Perennial
ATNU	Atriplex nuttallii	Nuttall saltbush	Half-shrub	Perennial
BOGR	Bouteloua gracilis	Blue grama	Grass	Perennial
BRCO	Bromus commutatus	Hairy chess	Grass	Annual
BRTE	Bromus tectorum	Cheatgrass	Grass	Annual
CAEL	Carex eleocharis	Needleleaf sedge	Sedge	Perennial
CAFI	Carex filifolia	Threadleaf sedge	Sedge	Perennial
CAMI	Camelina microcarpa	Littlepod falseflax	Forb	Annual
CAST	Castilleja spp.	Paintbrush	Forb	Perennial
CHAL	Chenopodium album	Lambsquarter	Forb	Annual
CHLA	Chenopodium lanceollatum	Lambsquarter goosefoot	Forb	Annual
CHVI	Chrysothamnus viscidiflorus	Green rabbitbrush	Shrub	Perennial
CHVI2	Chrysopis villosa	Hairy goldenaster	Forb	Perennial
CRE	Crepis spp.	Hawksbeard	Forb	
DEPI	Descurainia pinnata	Pinnate tansymustard	Forb	Annual
ELCI	Elymus cinerious	Basin wildrye	Grass	Perennial
ERCA	Erigeron canadensis	Horseweed fleabane	Forb	Annual
ERCO	Erigeron compositus	Fernleaf fleabane	Forb	Perennial
ERFL	Eriogonum flavum	Yellow wildbuckwheat	Half-shrub	Perennial
ERMI	Eriogonum microthecum	Slenderbrush	Forb	Perennial
EROV	Eriogonum ovalifolium	Cushion eriogonum	Forb	Perennial
ERPU	Erigeron pumilus	Fleabane	Forb	Perennial
EULA	Eurotia lanata	Winterfat	Half-shrub	Perennial
EUSE	Euphorbia serphyllifolia	Thyme-leaved spurge	Forb	Annual
FEOC	Festuca octoflora	Sixweek fescue	Grass	Annual
GIIN	Gilia insignis	Gilia	Forb	Annual
GIPU	Gilia pumila	Gilia	Forb	Annual
GISP	Gilia spicata	Spike gilia	Forb	Perennial
GUSA	Gutierrezia sarothrae	Broom snakeweed	Half-shrub	Perennial

Table I. Continued

Code	Genus - Species	Common Name	Life Form	Longevity
HAGL	Halogeton glomeratus	Halogeton	Forb	Annual
HEPE	Helianthus petiolaris	Prairie sunflower	Forb	Annual
JUOS	Juniperus osteosperma	Utah juniper	Tree	Perennial
KOCR	Koeleria cristata	June grass	Grass	Perennial
LAPU	Lactuca pulchella	Blue lettuce	Forb	Perennial
LARE	Lappula redowskii	Stickseed	Forb	Annual
LEDE	Lepidium densiflorum	Prairie pepperweed	Forb	Annual
LEPE	Lepidium perfoliatum	Clasping pepperweed	Forb	Annual
LEPU	Leptodactylon pungens	Granite gilia	Forb	Perennial
LILE	Linum lewisii	Blue flax	Forb	Perennial
LIRI	Linum rigidum	Stiffstem flax	Forb	Perennial
LIRU	Lithosperum Ruderale	Wayside gromwell	Forb	Annual
MACA	Machaeranthera canescens	Hoary aster	Forb	Perennial
MATA	Machaeranthera tanacetifolia	Aster	Forb	Annual
MUDI	Musineon divaricatum	Falsecarrot	Forb	Perennial
MUSQ	Munroa squarrosa	False buffalo grass	Grass	Annual
OPPO	Opuntia polyacantha	Plains pricklypear	Forb	Perennial
ORHY	Oryzopsis hymenoides	Indian ricegrass	Grass	Perennial
PEAL	Penstemon albertinus	Alberta penstemon	Forb	Perennial
PELA	Penstemon larieifolius	Larshleaf penstemon	Forb	Perennial
PEN	Penstemon spp.	Penstemon	Forb	Perennial
PHHO	Phlox hoodii	Hood's phlox	Forb	Perennial
PHLO	Phlox longifolia	Long-leaf phlox	Forb	Perennial
PHMU	Phlox multiflora	Flowery phlox	Forb	Perennial
PLPA	Plantago patagonica	Wooly indianwheat	Forb	Annual
PLSP	Plantago spinescens	Spiny indianwheat	Forb	Annual
POAM	Poa ampla	Big Bluegrass	Grass	Perennial
POFE	Poa fendleriana	Muttongrass	Grass	Perennial
POSE	Poa secunda	Sandberg bluegrass	Grass	Perennial
PSTE	Psoralea tenuiflora	Slimflower scurfpea	Forb	Perennial
SAVE	Sarcobatus vermiculatus	Greasewood	Shrub	Perennial
SAKA	Salsola kali	Russian thistle	Forb	Annual
SCPA	Schedonnardus paniculatus	Tumblegrass	Grass	Perennial
SECA	Senecio canus	Woolly groundsel	Forb	Perennial
SELU	Senecio lugens	Old man	Forb	Annual
SIHY	Sitanion hystrix	Squirreltail bottlebrush	Grass	Perennial
SPAI	Sporobolus airoides	Alkali sacaton	Grass	Perennial
SPCO	Sphaeralcea coccinea	Scarlet globemallow	Forb	Perennial
SPCR	Sporobolus cryptandrus	Sand dropseed	Grass	Perennial
STCO	Stipa comata	Needleandthread	Grass	Perennial
SYOC	Symphoricarpos occidentalis	Western snowberry	Shrub	Perennial
TECA	Tetradymia canescens	Gray horsebrush	Shrub	Perennial
TESP	Tetradymia spinosa	Spiny horsebrush	Shrub	Perennial
TRI	Trifolium spp.	Clover	Forb	
UNK	Unknown			
VIAM	Vicia americana	American vetch	Forb	Perennial

Table 2. An alphabetical listing of study area, the county where each occurs, and the treatments studied in each area.

County Name Code	Exclosure Name	County	Treatment	
1001	Ant Erad. Lander Exc.	Fremont	Inside	Native
			Outside	Native
1002	Boysen Reservoir Exc.	Fremont	Inside	Native
			Outside	Native
1003	Lower Gov't Draw Exc.	Fremont	Inside	Native
			Inside	Spray
			Outside	Native
			Outside	Spray
1004	McGraw Flat Exc.	Fremont	Inside	Native
			Outside	Native
1005	Sweetwater Exc.	Fremont	Inside	Native
			Outside	Native
1006	Upper Gov't Draw Exc.	Fremont	Inside	Native
			Inside	Spray
			Outside	Native
			Outside	Spray
1007	Granite Mountain Exc.	Fremont	Inside	Native
			Inside	Spray
			Outside	Native
			Outside	Spray
2002	Buffalo Creek Exc.	Washakie	Inside	Native
			Outside	Native
2003	Burnt Wagon Exc.	Washakie	Inside	Native
			Outside	Native
2004	Demer Exc.	Washakie	Inside	Native
			Outside	Native
2005	Dutch Nick Flat Exc.	Washakie	Inside	Native
			Outside	Native
2006	West Pasture Exc.	Washakie	Inside	Native
			Outside	Native
2007	Bud Kimball Exc.	Washakie	Inside	Native
			Inside	Spray
			Outside	Native
			Outside	Spray
2009	Smilo Exc.	Washakie	Inside	Native
			Inside	Spray
			Outside	Native
			Outside	Spray
2010	Two Mile Hill Exc.	Washakie	Inside	Native
			Outside	Native
1501	Cochran Exc.	Hot Springs	Inside	Native
			Inside	Spray
			Inside	Pitted
			Inside	Cultivated
			Outside	Native
			Outside	Spray

(continued)

Table 2. Continued

County Name Code	Exclosure Name	County	Treatment	
1502	Kirby Creek Exc.	Hot Springs	Inside	Native
			Outside	Native
1503	North Butte Relic Area (Thermopolis)	Hot Springs		Native
1504	Round Top Relic Area	Hot Springs		Native
1505	Sand Gulch Exc.	Hot Springs	Inside	Native
			Outside	Native
0901	Halogeton Exc. #1	Big Horn	Inside	Native
0902	Halogeton Exc. #2	Big Horn	Inside	Native
0903	Halogeton Exc. #3	Big Horn	Inside	Native
0904	Halogeton Pasture #1	Big Horn	Outside	Native
0905	Halogeton Pasture #2	Big Horn	Outside	Native
0907	Halogeton Pasture #4A	Big Horn	Outside	Native
0908	Halogeton Pasture #4B	Big Horn	Outside	Native
0909	Halogeton Pasture #5	Big Horn	Outside	Native
0910	Halogeton Pasture #6	Big Horn	Outside	Native
0911	Halogeton Pasture #7A	Big Horn	Outside	Native
0912	Halogeton Pasture #7B	Big Horn	Outside	Native
0913	Horse Creek Exc.	Big Horn	Inside	AGSM
			Inside	AGSP
			Outside	AGSM
			Outside	AGSP
0914	Kane Deer Exc.	Big Horn	Inside	Native
			Inside	Spray
			Outside	Native
			Outside	Spray
0404	Farson Exc.	Sweetwater	Inside	Native
			Outside	Native
1901	Cumberland Exc. #1	Uinta	Inside	Native
			Inside	Spray
			Outside	Native
			Outside	Spray
1902	Cumberland Exc. #4	Uinta	Inside	Native
			Outside	Native
1201	Cumberland Exc. #2	Lincoln	Inside	Native
			Inside	Spray
			Outside	Native
			Outside	Spray
1202	Cumberland Exc. #3	Lincoln	Inside	Native
			Inside	Spray
			Outside	Native
			Outside	Spray

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Ant Eradication Exc. Lander Inside-Native 23 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ F	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	94.3	4.7	----	12.0	----	----	----	-----
AGSM	6.7	0.3	18.66	20.0	36.58	1.83	5.46	175.58
BOGR	11.5	0.6	32.03	3.0	6.83	2.28	0.59	32.78
STCO	6.5	0.3	18.11	6.0	12.32	2.05	1.90	59.14
ORHY	3.0	0.1	8.36	1.0	8.36	8.36	2.79	40.13
POSE	6.5	0.3	18.11	10.0	18.43	1.84	2.84	88.46
CAEL	1.3	T	3.62	5.0	6.26	1.25	4.82	30.05
ANNUAL FORBS	0.2	---	----	2.0	2.36	1.18	11.80	11.33
PLSP	0.2	T	0.56	2.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.2	---	----	2.0	2.41	1.21	12.05	11.57
SPCO	0.1	T	0.28	1.0	0.00	0.00	0.00	0.00
ERPU	0.1	T	0.28	1.0	0.00	0.00	0.00	0.00
*PHHO	1.0	0.0	----	1.0	----	----	----	-----
*OPPO	12.0	0.6	----	2.0	----	----	----	-----
TOTAL		1.8	100.00		93.55			449.04

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #5 - Ant Erad. Lander Exclosure
October 15 to April 15 = 2.30
April 15 to July 1 = 4.84
July 1 to September 1 = 0.12
September 1 to October 15 = 0.72
Season Total = 7.98
Long Term Average = 8.59

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Ant Eradication Exc. Lander Outside-Native 23 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	120.2	6.0	----	14.0	----	----	----	-----
STCO	18.0	0.9	48.39	10.0	25.28	2.53	1.40	121.34
ORHY	1.0	T	2.69	2.0	2.30	1.15	2.30	11.04
POSE	6.4	0.3	17.20	11.0	12.56	1.14	1.96	60.29
AGSM	9.4	0.5	25.27	20.0	42.25	2.11	4.49	202.80
BOGR	1.5	T	4.03	2.0	2.51	1.26	1.67	12.05
PLSP	0.3	T	0.81	3.0	1.50	0.50	5.00	7.20
PERENNIAL FORBS	0.6	---	----	6.0	5.63	0.94	9.38	27.02
ERPU	0.2	T	0.54	2.0	0.00	0.00	0.00	0.00
SPCO	0.4	T	1.08	4.0	0.00	0.00	0.00	0.00
*PHHO	1.1	0.1	----	2.0	----	----	----	-----
*OPPO	35.1	1.8	----	3.0	----	----	----	-----
TOTAL		1.9	100.00		92.03			441.74

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	2%
STCO	10%

Total Production adjusted to 459.36 lbs.

Precipitation Data

R.G. #5 - Ant Erad. Lander Exclosure

October 15 to April 15 = 2.30

April 15 to July 1 = 4.84

July 1 to September 1 = .12

September 1 to October 15 = .72

Season Total = 7.98

Long Term Average = 8.59

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Boysen Reservoir Exclosure Inside-Native 5 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
BOGR	177.0	8.8	97.95	18.0	52.45	2.91	0.30	251.76
ANNUAL								
FORBS	0.1	---	----	1.0	0.05	0.05	0.50	0.24
UNK	0.1	T	T	1.0	0.00	0.00	0.00	0.00
PERENNIAL								
FORBS	3.6	---	----	15.0	3.41	0.23	0.95	16.37
SPCO	3.6	0.2	1.99	15.0	0.00	0.00	0.00	0.00
*OPPO	0.5	0.0	----	1.0	----	----	----	----
TOTAL		9.0	100.00		55.91			268.37

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. # 10 - Boysen Reservoir Exclosure

October 15 to April 15	= 1.00
April 15 to July 1	= 2.50
July 1 to September 1	= 0.27
September 1 to October 15	= 0.38
Season Total	= 4.15
Long Term Average	= 4.83

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Boysen Reservoir Exclosure Outside-Native 5 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
ATCO	0.6	T	0.34	2.0	0.49	0.25	0.82	2.35
BOGR	173.1	8.7	99.20	17.0	30.54	1.80	0.18	146.59
PERENNIAL FORBS	0.8	---	----	5.0	1.42	0.28	1.77	6.82
SPCO	0.7	T	0.40	3.0	0.00	0.00	0.00	0.00
*OPPO	15.0	0.7	----	1.0	0.00	0.00	0.00	0.00
ASPU	0.1	T	T	1.0	0.00	0.00	0.00	0.00
TOTAL		8.7	100.00		32.45			155.76

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. # 10 - Boysen Reservoir Exclosure
October 15 to April 15 = 1.00
April 15 to July 1 = 2.50
July 1 to September 1 = 0.27
September 1 to October 15 = 0.38
Season Total = 4.15
Long Term Average = 4.83

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Bud Kimball Exclosure Inside-Native 21 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo- sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur- rences F - E	Wgt./ Unit Basal Area F - E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	358.0	17.9	----	12.0	----	----	----	----
KOCR	0.5	T	1.52	1.0	0.14	0.14	0.28	0.67
AGSM	13.4	0.7	40.61	20.0	33.35	1.66	2.49	160.08
STCO	1.0	T	3.03	1.0	1.31	1.31	1.31	6.29
POSE	10.1	0.5	30.61	9.0	4.47	0.50	0.44	21.46
AGSP	5.6	0.3	16.97	5.0	4.81	0.96	0.86	23.08
ANNUAL FORBS	1.2	---	----	8.0	0.62	0.08	0.52	2.97
PISP	1.2	T	3.64	8.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	1.2	T	----	8.0	2.26	0.28	1.88	10.85
ERPU	1.2	T	3.64	8.0	0.00	0.00	0.00	0.00
*PHHO	17.7	0.9	----	7.0	----	----	----	----
*OPPO	47.0	2.3	----	3.0	----	----	----	----
TOTAL		1.6	100.00		36.46			225.40

*Not computed in percent composition

T - Trace

Precipitation Data

R. G. #41 - Bud Kimball Exclosure

October 15 to April 15 = 3.12
April 15 to July 1 = 4.70
July 1 to September 1 = .05
September 1 to October 15 = .40
Season Total = 8.27
Long Term Average = 9.35

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Bud Kimball Exclosure Inside-Spray 21 July-69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	3.0	0.1	----	3	----	----	----	----
AGSM	20.1	1.0	44.67	20	66.33	3.32	3.30	318.38
STCO	9.6	0.5	21.33	5	14.88	2.98	1.55	71.42
POSE	14.0	0.7	31.11	12	6.13	0.51	0.44	29.42
AGSP	0.5	T	1.11	1	0.70	0.70	1.40	3.36
BRTE	0.1	T	0.22	1	0.02	0.02	0.20	0.10
ANNUAL FORBS	0.5	----	----	5	0.71	0.14	1.42	3.41
LARE	0.1	T	0.22	1	0.00	0.00	0.00	0.00
PLSP	0.3	T	0.67	3	0.00	0.00	0.00	0.00
LEDE	0.1	T	0.22	1	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.2	----	----	2	0.53	0.26	2.65	2.54
ERPU	0.2	T	0.44	2	0.00	0.00	0.00	0.00
*PHHO	8.0	0.4	----	3	----	----	----	----
*OPPO	114.7	5.7	----	9	----	----	----	----
TOTAL		2.2	100.00		89.30			428.64

*Not computed in percent composition

T - Trace

Precipitation Data:

R. G. #41 - Bud Kimball Exc.
Ocotber 15 to April 15 = 3.12
April 15 to July 1 = 4.70
July 1 to September 1 = 0.05
September 1 to October 15 = 0.40
Season Total = 8.27
Long Term Average = 9.35

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Bud Kimball Exclosure Outside-Native 21 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	34.0	1.7	-----	3.0	----	----	----	-----
AGSM	21.3	1.1	48.85	20.0	54.12	2.71	2.54	259.78
POSE	15.8	0.8	36.24	15.0	6.23	0.42	0.39	29.90
SIHY	3.5	0.2	8.03	3.0	3.34	1.11	0.95	16.03
ANNUAL FORBS	2.4	---	-----	16.0	2.87	0.18	1.20	13.78
PLSP	2.4	0.1	5.50	16.0	0.00	0.00	0.00	00.00
PERENNIAL FORBS	0.6	---	-----	2.0	0.34	0.17	0.57	1.63
ERPU	0.6	T	1.38	2.0	0.00	0.00	0.00	0.00
*PHHO	6.5	0.3	-----	7.0	----	----	----	----
*OPPO	30.5	1.5	-----	6.0	----	----	----	----
TOTAL		2.2	100.00		66.90			321.12

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

POSE	10%
AGSM	10%
SIHY	10%

Total Production adjusted to 355.08 lbs.

Precipitation Data

R.G. # 41 - Bud Kimball Exclosure

October 15 to April 15 = 3.12
April 15 to July 1 = 4.70
July 1 to September 1 = .05
September 1 to October 15 = .40
Season Total = 8.27
Long Term Average = 9.35

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Bud Kimball Exclosure Outside-Spray 21 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	15.0	0.7	----	1.0	----	----	----	-----
AGSM	26.6	1.3	38.83	20.0	51.51	2.58	1.94	247.25
AGSP	2.1	0.1	3.07	2.0	2.20	1.10	1.05	10.56
POSE	24.9	1.2	36.35	17.0	7.99	0.47	0.32	38.35
SIHY	2.5	0.1	3.65	2.0	1.57	0.79	0.63	7.54
FEOC	2.5	0.1	3.65	8.0	2.09	0.26	0.84	10.03
ANNUAL FORBS	9.9	---	----	20.0	14.49	0.72	1.46	69.55
PISP	9.8	0.5	14.31	20.0	0.00	0.00	0.00	0.00
LEDE	0.1	T	0.15	1.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.0	---	----	0.00	0.00	0.00	0.00	0.00
*OPPO	31.0	1.5	----	2.0	0.00	0.00	0.00	0.00
TOTAL		3.4	100.00		79.85			383.28

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	10%
POSE	10%
SIHY	10%

Total production adjusted to 415.85 lbs.

Precipitation Data

R G. #41 - Bud Kimball Exclosure
October 15 to April 15 = 3.12
April 15 to July 1 = 4.70
July 1 to September 1 = .05
September 1 to October 15 = .40
Season Total = 8.27
Long Term Average = 9.35

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Buffalo Creek Exclosure Inside-Native 31 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-ences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	46.1	2.3	----	9.0	----	----	----	----
POSE	11.9	0.6	8.65	12.0	7.67	0.64	0.64	36.82
AGSM	1.1	T	0.80	7.0	2.29	0.33	2.08	10.99
AGSP	83.7	4.2	60.83	13.0	92.17	7.09	1.10	442.42
BOGR	40.0	2.0	29.07	3.0	6.51	2.17	0.16	31.25
ANNUAL FORBS	0.3	---	----	3.0	0.66	0.22	2.20	3.17
PLSP	0.3	T	0.22	3.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.6	---	----	6.0	0.99	0.16	1.65	4.75
SPCO	0.4	T	0.29	4.0	0.00	0.00	0.00	0.00
MACA	0.2	T	0.15	2.0	0.00	0.00	0.00	0.00
*PHHO	23.7	1.2	----	8.0	----	----	----	----
*OPPO	4.0	0.2	----	1.0	----	----	----	----
TOTAL		6.9	100.00		24.08			529.40

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #7 - Buffalo Creek Exclosure

October 15 to April 15 = 3.26
April 15 to July 1 = 4.88
July 1 to September 1 = 0.01
September 1 to October 15 = 1.25
Season Total = 9.40
Long Term Average = 10.43

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Buffalo Creek Exclosure Outside-Native 31 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	329.2	16.5	----	17.0	----	----	----	-----
AGSM	7.4	0.4	21.02	17.0	20.28	1.19	2.74	97.34
AGSP	12.0	0.6	34.09	7.0	18.57	2.65	1.55	89.14
POSE	13.4	0.7	38.07	18.0	11.87	0.66	0.89	56.98
ANNUAL FORBS	1.0	---	----	10.0	5.91	0.59	5.91	28.37
PLSP	1.0	T	2.84	10.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	1.4	---	----	12.0	5.90	0.49	4.21	28.32
SPCO	0.6	T	1.70	6.0	0.00	0.00	0.00	0.00
MACA	0.8	T	2.27	8.0	0.00	0.00	0.00	0.00
*PHHO	6.2	0.3	----	4.0	----	----	----	-----
*OPPO	5.0	0.2	----	2.0	----	----	----	-----
TOTAL		1.8	100.00		62.53			300.14

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #7 - Buffalo Creek Exclosure

October 15 to April 15 = 3.26

April 15 July 1 = 4.88

July 1 to September 1 = 0.01

September 1 to October 15 = 1.25

Season Total = 9.40

Long Term Average = 10.43

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Burnt Wagon Exclosure Inside-Native 9 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo-sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur-rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	564.7	2.8	97.68	67.0	177.74	1.00	0.31	85.32
SIHY	3.7	T	0.64	5.0	1.24	0.17	0.33	0.59
PERENNIAL FORBS	9.7	---	----	65.0	5.02	0.02	0.52	2.41
MUDI	9.7	T	1.68	65.0	0.00	0.00	0.00	0.00
TOTAL		2.9	100.00		184.00			88.32

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #17 - Burnt Wagon Exclosure

October 15 to April 15 = 1.36

April 15 to July 1 = 2.20

July 1 to September 1 = 0.52

September 1 to October 15 = 0.34

Season Total = 4.42

Long Term Average = 6.29

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Burnt Wagon Exclosure Inside-Native 9 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	212.8	3.5	66.98	0.31
SIHY	2.6	T	0.87	0.33
PERENNIAL FORBS	2.9	---	1.50	0.52
MUDI	2.9	T	0.00	0.00
TOTAL		3.6	69.35	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Burnt Wagon Exclosure Outside-Native 9 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo-sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur-rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	2416.0	12.1	99.17	105.0	631.61	2.12	0.26	303.17
SIHY	7.2	T	0.30	13.0	178.29	8.00	24.76	85.58
ANNUAL FORBS	5.6	---	----	13.0	15.54	0.09	2.77	7.46
MATA	5.6	T	0.23	13.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	7.5	---	----	63.0	25.25	0.11	3.37	12.12
MUDI	7.5	T	0.31	63.0	0.00	0.00	0.00	0.00
TOTAL		12.2	100.00		850.68			408.33

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #17 - Burnt Wagon Exclosure

October 15 to April 15	= 1.36
April 15 to July 1	= 2.20
July 1 to September 1	= 0.52
September 1 to October 15	= 0.34
Season Total	= 4.42
Long Term Average	= 6.29

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with
Three 1'x1' Clip Plots

Plot Size 1 x 10

No. Subplots 60

Burnt Wagon Exclosure Outside-Native 9 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	849.8	14.2	222.16	0.26
SIHY	4.2	T	104.00	24.76
ANNUAL FORBS	0.4	---	1.11	2.77
MATA	0.4	T	0.00	0.00
PERENNIAL FORBS	2.1	---	7.07	3.37
MUDI	2.1	T	0.00	0.00
TOTAL		14.3	334.34	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cochran Exclosure Inside Cultivated 30 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo- sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur- rances F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	38.1	1.9	----	10.00	----	----	----	----
POSE	23.2	1.2	47.35	16.00	7.79	0.49	0.34	37.39
AGSM	8.2	0.4	16.73	19.00	19.05	1.00	2.32	91.44
ANNUAL GRASS	16.7	---	----	19.00	13.67	0.72	0.82	65.62
BRTE	16.3	0.8	33.27	19.00	0.00	0.00	0.00	0.00
FEOC	0.4	T	0.82	4.00	0.00	0.00	0.00	0.00
ANNUAL FORBS	0.8	---	----	7.00	1.19	0.17	0.49	5.71
PLSP	0.5	T	1.02	5.00	0.00	0.00	0.00	00.00
LARE	0.2	T	0.41	2.00	0.00	0.00	0.00	00.00
LEDE	0.1	T	0.20	1.00	0.00	0.00	0.00	00.00
PERENNIAL FORBS	0.1	---	----	1.00	0.41	0.41	4.10	1.97
SPCP	0.1	T	0.20	1.00	0.00	0.00	0.00	0.00
TOTAL		2.4	100.00		42.11			202.13

*Not computed in percent composition

T - trace

PRECIPITATION DATA

R.G. No. 76, Cochran Exclosure
October 15 to April 15 = 3.25
April 15 to July 1 = 3.35
July 1 to September 1 = 0.33
September 1 to October 15 = 0.51
Season Total = 7.44
Long Term Average = 10.31

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cochran Exclosure Inside-Native 30 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms /20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	384.0	19.2	----	18.0	----	----	----	-----
POSE	58.5	2.9	79.27	20.0	19.25	0.96	0.33	92.40
AGSM	12.6	0.6	17.07	20.0	29.88	1.49	2.37	143.42
SIHY	1.0	T	1.36	1.0	0.80	0.80	0.80	3.84
BRTE	0.1	T	0.14	1.0	0.23	0.23	2.30	1.10
ANNUAL FORBS	0.3	---	----	3.0	1.02	0.34	3.40	4.90
PLSP	0.3	T	0.41	3.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	1.3	---	----	5.0	1.55	0.31	1.19	7.44
ERPU	1.3	T	1.76	5.0	0.00	0.00	0.00	0.00
*OPPO	3.0	0.1	----	2.0	----	----	----	-----
TOTAL		3.7	100.00		52.73			253.10

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #76 - Cochran Exclosure

October 15 to April 15	= 3.25
April 15 to July 1	= 3.35
July 1 to September 1	= 0.33
September 1 to October 15	= 0.51
Season Total	= 7.44
Long Term Average	= 10.31

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cochran Exclosure Inside Pitted 7 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo- sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur- rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	116.1	5.8	----	9.0	----	----	----	----
STCO	3.0	0.1	7.46	2.0	2.16	1.08	0.72	10.37
AGSM	8.6	0.4	21.39	18.0	20.43	1.14	2.38	98.06
POSE	19.7	1.0	49.00	18.0	10.15	0.56	0.52	48.72
BOGR	1.0	T	2.49	1.0	0.48	0.48	0.48	2.30
ANNUAL GRASS	3.9	---	----	13.0	5.74	0.44	1.47	27.55
BRTE	2.6	0.1	6.47	13.0	0.00	0.00	0.00	0.00
FEOC	1.3	T	3.23	5.0	0.00	0.00	0.00	0.00
ANNUAL FORBS	4.0	---	----	4.0	1.18	0.30	0.30	5.66
PLSP	4.0	0.2	9.95	4.0	0.00	0.00	0.00	0.00
PPERENNIAL FORBS	0.0	---	----	0.0	0.00	0.00	0.00	0.00
*OPPO	4.0	0.2	----	2.0	----	----	----	----
TOTAL		2.0	100.00		40.14			192.67

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #76 - Cochran Exclosure
October 15 to April 15 = 3.25
April 15 to July 1 = 3.35
July 1 to September 1 = 0.33
September 1 to October 15 = 0.51
Season Total = 7.44
Long Term Average = 10.31

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cochran Exclosure Outside-Native 30 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	140.0	7.0	-----	9.0	----	----	----	------
AGSM	6.0	0.3	16.39	19.0	22.56	1.19	3.76	108.29
POSE	29.6	1.5	80.87	20.0	13.43	0.67	0.45	64.46
BRTE	0.3	T	0.82	3.0	0.24	0.08	0.80	1.15
ANNUAL FORBS	0.5	---	----	5.0	0.31	0.06	0.62	1.49
PISP	0.5	T	1.37	5.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.2	---	-----	2.0	0.20	0.10	1.00	0.96
MACA	0.2	T	0.55	2.0	0.00	0.00	0.00	0.00
*OPPO	8.0	0.4	-----	1.0	----	----	----	-----
*PHHO	14.2	0.7	-----	7.0	----	----	----	-----
TOTAL		1.8	100.00		36.74			176.35

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

POSE	5%
AGSM	20%

Total Production Adjusted to 206.81 lbs.

Precipitation Data

R.G. # 76 - Cochran Exclosure

October 15 to April 15 = 3.25
April 15 to July 1 = 3.35
July 1 to September 1 = .33
September 1 to October 15 = .51
Season Total = 7.44
Long Term Average = 10.31

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cochran Exclosure Outside-Spray 30 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	2.0	0.1	----	2.0	----	----	----	----
BOGR	3.0	0.1	4.82	1.0	0.73	0.73	0.24	3.50
POSE	38.3	1.9	61.48	19.0	16.20	0.85	0.52	77.76
AGSM	18.7	0.9	30.02	20.0	45.11	2.26	2.41	216.53
BRTE	1.8	T	2.89	10.0	4.36	0.44	2.42	20.93
ANNUAL FORBS	0.4	---	----	4.0	0.75	0.19	1.87	3.60
PLSP	0.4	T	0.64	4.0	0.00	0.00	0.00	0.00
MACA	0.1	T	0.16	1.0	0.42	0.42	4.20	2.02
*OPPO	23.0	1.1	----	2.0	----	----	----	----
TOTAL		3.1	100.00		68.57			324.34

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

POSE	20%
AGSM	20%

Total production adjusted to 397.91 lbs.

Precipitation Data

R.G. #76 - Cochran Exclosure

October 15 to April 15	= 3.25
April 15 to July 1	= 3.35
July 1 to September 1	= 0.33
September 1 to October 15	= 0.51
Season Total	= 7.44
Long Term Average	= 10.31

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #1 Inside-Native 2 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*CHVI	134.0	6.7	----	14.0	----	-----	-----	-----
*SAVE	104.0	5.2	----	5.0	----	-----	-----	-----
*ARTR	82.1	4.1	----	4.0	----	-----	-----	-----
ATNU	13.5	0.7	31.91	6.0	17.81	2.97	1.32	85.49
AGSM	18.8	0.9	44.44	19.0	24.33	1.28	1.29	116.78
SIHY	1.5	T	3.55	3.0	1.10	0.37	0.73	5.28
POSE	1.5	T	3.55	3.0	2.62	0.87	1.75	12.58
ORHY	7.0	0.3	16.55	2.0	10.34	5.17	1.48	49.63
PERENNIAL FORBS	0.0	---	----	---	----	-----	-----	-----
*PHMU	1.0	0.0	----	10.0	----	-----	-----	-----
TOTAL		2.1	100.00		56.20			269.76

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. # 31 - Cumberland Exclosure
October 15 to April 15 = 3.65
April 15 to July 1 = 3.20
July 1 to September 1 = 0.25
September 1 to October 15 = 0.85
Season Total = 7.95
Long Term Average = 8.74

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #1 Inside-Spray 2 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	47.0	2.3	----	3.0	----	----	-----	-----
*CHVI	93.0	4.6	----	8.0	----	----	-----	-----
AGSM	22.8	1.1	66.09	19.0	34.21	1.80	1.50	164.21
POSE	7.6	0.4	22.03	5.0	4.29	0.86	0.56	20.59
ORPHY	3.0	0.1	8.70	1.0	6.10	6.10	2.03	29.28
SIHY	1.0	T	2.90	1.0	1.10	1.10	1.10	5.28
BRTE	0.1	T	0.29	1.0	0.57	0.57	5.70	2.74
PERENNIAL FORBS	0.0	---	----	0.00	0.00	0.00	0.00	0.00
*PHMU	1.0	0.0	----	6.00	----	----	----	----
TOTAL		1.7	100.00		46.27			222.10

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. # 31 - Cumberland Exclosure
October 15 to April 15 = 3.65
April 15 to July 1 = 3.20
July 1 to September 1 = 0.25
September 1 to October 15 = 0.85
Season Total = 7.95
Long Term Average = 8.74

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #1 Outside-Native 2 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	13.5	0.7	-----	3.0	-----	-----	-----	-----
*SAVE	13.0	0.6	-----	3.0	-----	-----	-----	-----
*CHVI	1.0	0.0	-----	1.0	-----	-----	-----	-----
*TFSP	43.5	2.2	-----	6.0	-----	-----	-----	-----
ATNU	57.6	2.9	62.00	7.0	20.46	2.92	0.36	98.21
AGSM	17.7	0.9	16.05	16.0	20.43	1.28	1.15	98.06
POSE	17.5	0.9	18.84	7.0	4.01	0.57	0.23	19.25
SIHY	0.1	T	0.11	1.0	2.08	2.08	20.80	9.98
PERENNIAL FORBS	0.0	---	-----	0.0	0.00	0.00	0.00	0.00
*PHMU	0.9	0.0	-----	5.0	-----	------	-----	-----
TOTAL		4.6	100.00		46.98			225.50

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	10%
POSE	20%
SIHY	30%

Total Production adjusted to 245.48 lbs.

Precipitation Data

R.G. No. 31 Cumberland Exclosure

October 15 to April 15 = 3.65

April 15 to July 1 = 3.20

July 1 to September 1 = 0.25

September 1 to October 15 = 0.85

Season Total = 7.95

Long Term Average = 8.74

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #1 Outside-Spray 20 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*CHVI	45.0	2.2	-----	1.0	-----	-----	-----	-----
AGSM	14.0	0.7	41.30	18.0	19.91	1.11	1.42	95.57
POSE	12.1	0.6	35.69	12.0	5.17	0.43	0.43	24.82
SIHY	4.0	0.2	11.80	6.0	4.04	0.67	1.01	19.39
ANNUAL FORBS	3.8	---	-----	14.0	17.17	1.23	4.52	82.42
DEPI	0.1	T	0.29	1.0	0.00	0.00	0.00	0.00
LARE	1.1	T	3.24	7.0	0.00	0.00	0.00	0.00
ATAR	1.5	T	4.42	3.0	0.00	0.00	0.00	0.00
CHAL	1.1	T	3.24	11.1	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.8	---	-----	8.0	-----	-----	-----	-----
*ERFL	0.8	0.0	-----	8.0	-----	-----	-----	-----
TOTAL		1.7	100.00		46.29			222.19

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	10%
SIHY	30%
POSE	20%

Total Production adjusted to 247.34 lbs.

Precipitation Data

R.G. # 31 Cumberland Exclosure

October 15 to April 15 = 3.65

April 15 to July 1 = 3.20

July 1 to September 1 = 0.25

September 1 to October 15 = 0.85

Season Total = 7.95

Long Term Average = 8.74

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #2 Inside- Native 22 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo- sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur- ences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARAR	146.6	7.3	----	16.0	----	----	----	----
*TECA	0.1	0.0	----	1.0	----	----	----	----
*SYOC	5.0	0.2	----	1.0	----	----	----	----
*CHVI	58.1	2.9	----	15.0	----	----	----	----
AGSM	21.3	1.1	19.58	19.0	66.55	3.50	3.12	319.44
POFE	45.5	2.3	41.82	12.0	60.36	5.03	1.33	289.73
POSE	8.1	0.4	7.44	5.0	14.81	2.96	1.83	71.09
ELCI	0.1	T	T	1.0	1.50	1.50	15.00	7.20
PERENNIAL FORBS	29.6	----	----	15.0	18.05	1.20	0.61	86.64
ERMI	0.1	T	T	1.0	0.00	0.00	0.00	0.00
ERFL	26.6	1.3	24.45	8.0	0.00	0.00	0.00	0.00
LEPU	4.0	0.2	3.68	1.0	0.00	0.00	0.00	0.00
PEN	0.6	T	0.55	2.0	0.00	0.00	0.00	0.00
AGGL	0.2	T	0.18	2.0	0.00	0.00	0.00	0.00
CAS	0.2	T	0.18	2.0	0.00	0.00	0.00	0.00
SFLU	0.1	T	T	1.0	0.00	0.00	0.00	0.00
TRI	0.6	T	0.55	6.0	0.00	0.00	0.00	0.00
PHLO	1.4	T	1.29	10.0	0.00	0.00	0.00	0.00
*PHMU	14.1	0.7	----	4.0	----	----	----	----
TOTAL		5.4	100.00		161.27			774.10

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. No. 32 - Cumberland Exclosure #2

October 15 to April 15 = 4.65

April 15 to July 1 = 3.00

July 1 to September 1 = 1.43

September 1 to October 15 = .88

Season Total = 9.96

Long Term Average = 9.31

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #2 Inside-Spray 22 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
AGSP	6.1	0.3	5.87	4.0	9.55	2.39	1.57	45.84
AGSM	34.6	1.7	33.30	18.0	128.59	7.14	3.72	617.23
POFE	48.0	2.4	46.20	11.0	82.23	7.48	1.71	394.70
POSE	10.6	0.5	10.20	6.0	10.81	1.80	1.02	51.89
PERENNIAL FORBS	4.6	---	----	14.0	15.10	1.08	3.28	72.48
ERMI	2.3	0.1	2.21	6.0	0.00	0.00	0.00	0.00
LTLE	1.0	T	0.96	1.0	0.00	0.00	0.00	0.00
TRI	1.0	T	0.96	10.0	0.00	0.00	0.00	0.00
ASMI 2	0.1	T	T	1.0	0.00	0.00	0.00	0.00
ERPU	0.1	T	T	1.0	0.00	0.00	0.00	0.00
PHLO	0.1	T	T	1.0	0.00	0.00	0.00	0.00
*PHMU	0.1	0.0	----	1.0	----	----	----	----
TOTAL		5.2	100.00		246.28			1182.14

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #32 - Cumberland Exclosure

October 15 to April 15 = 4.65
April 15 to July 1 = 3.00
July 1 to September 1 = 1.43
September 1 to October 15 = .88
Season Total = 9.96
Long Term Average = 9.31

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #2 Outside- Native 22 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARAR	282.5	14.1	-----	16.0	-----	-----	-----	-----
*CHVI	4.0	0.2	-----	1.0	-----	-----	-----	-----
*TFCA	45.0	2.2	-----	1.0	-----	-----	-----	-----
AGSM	40.0	2.0	32.76	15.0	26.89	1.79	0.67	129.07
POSE	7.6	0.4	6.22	5.0	8.29	1.66	1.09	39.79
POFE	28.0	1.4	22.93	11.0	25.06	2.28	0.90	120.29
PERENNIAL FORBS	46.5	---	-----	20.0	24.72	1.24	0.53	118.66
TRI	0.6	T	0.49	7.0	0.00	0.00	0.00	0.00
PHLO	1.2	T	0.98	9.0	0.00	0.00	0.00	0.00
CAS	2.1	0.1	1.72	9.0	0.00	0.00	0.00	0.00
AGGL	1.1	T	0.90	3.0	0.00	0.00	0.00	0.00
ERMI	41.5	2.1	33.99	14.0	0.00	0.00	0.00	0.00
*PHHO	16.5	0.8	-----	6.0	-----	-----	-----	-----
*PHMU	1.0	0.0	-----	1.0	-----	-----	-----	-----
TOTAL		6.1	100.00		84.96			407.81

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	40%
POFE	75%

Total Production adjusted to 854.73 lbs.

Precipitation Data

R.G. #32 - Cumberland Exclosure

October 15 to April 15 = 4.65

April 15 to July 1 = 3.00

July 1 to September 1 = 1.43

September 1 to October 15 = .88

Season Total = 9.96

Long Term Average = 9.31

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #2 Outside-Spray 22 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*CHVI	15.2	0.8	-----	3.0	-----	-----	-----	-----
AGSP	2.6	0.1	3.31	4.0	7.14	1.79	2.75	34.27
AGSM	21.6	1.1	27.48	7.0	53.89	7.70	2.49	258.67
POFE	29.0	1.4	36.90	10.0	21.13	2.11	0.73	101.42
STCO	3.0	0.1	3.82	2.0	0.61	0.31	0.20	2.93
KOCR	0.5	T	0.64	1.0	0.32	1.32	2.64	6.34
POSE	12.1	0.6	15.39	12.0	16.02	1.34	1.32	76.90
PERENNIAL FORBS	9.8	---	-----	17.0	16.50	0.97	1.68	79.20
ERMI	5.7	0.3	7.25	4.0	0.00	0.00	0.00	0.00
LILE	2.9	0.1	3.69	9.0	0.00	0.00	0.00	0.00
PHLO	0.4	T	0.51	4.0	0.00	0.00	0.00	0.00
TRI	0.8	T	1.02	8.0	0.00	0.00	0.00	0.00
*PHHO	6.0	0.3	-----	3.0	-----	-----	-----	-----
*PHMU	0.7	0.0	-----	3.0	-----	-----	-----	-----
TOTAL		3.9	100.00		116.61			559.73

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	35%
POSE	60%
POFE	60%
STCO	60%
AGSP	30%

Total Production adjusted to 1070.09 lbs.

Precipitation Data

R.G. #32 - Cumberland Exclosure

October 15 to April 15 = 4.65

April 15 to July 1 = 3.00

July 1 to September 1 = 1.43

September 1 to October 15 = .88

Season Total = 9.96

Long Term Average = 9.31

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #3 Inside-Native Aug. 21, '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	312.0	15.6	----	16.0	----	----	----	----
*CHVI	14.7	0.7	----	8.0	----	----	----	----
AGSM	3.2	0.2	4.05	10.0	6.32	0.63	1.97	30.34
AGSP	18.1	0.9	22.88	5.0	25.32	5.06	1.40	121.54
POFE	23.0	1.1	29.08	6.0	15.87	2.65	0.69	76.18
POSE	29.1	1.5	36.79	18.0	13.18	0.73	0.45	63.26
PERENNIAL FORBS	5.7			11.0	3.42	0.31	0.60	16.42
ERFL	3.1	0.2	3.92	3.0	0.00	0.00	0.00	0.00
TRI	1.3	T	1.64	9.0	0.00	0.00	0.00	0.00
PHLO	1.3	T	1.64	4.0	0.00	0.00	0.00	0.00
*PHMU	4.6	0.2	----	12.0	----	----	----	----
*PHHO	49.5	2.5	----	7.0	----	----	----	----
TOTAL		4.0	100.00		64.11			307.73

*Not computed in percent composition

T - Trace

Precipitation Data

R. G. No. 33 - Cumberland
October 15 to April 15 = 6.22
April 15 to July 1 = 2.45
July 1 to September 1 = 1.20
September 1 to October 15 = 1.49
Season Total =11.36
Long Term Average =10.86

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #3 Inside-Spray 21 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	1.0	0.0	-----	1.0	-----	----	----	-----
*CHVI	2.0	0.1	-----	1.0	-----	----	----	-----
AGSM	2.3	0.1	1.91	4.0	9.36	2.34	4.07	44.93
AGSP	50.6	2.5	42.06	17.0	109.18	6.42	2.16	524.06
POFE	60.1	3.0	49.96	7.0	100.84	14.41	1.68	484.03
POSE	5.6	0.3	4.66	4.0	1.27	0.91	0.91	24.38
PERENNIAL FORBS	1.7	---	-----	8.0	7.45	0.93	4.38	35.76
TRI	0.5	T	0.42	5.0	0.00	0.00	0.00	0.00
AST	1.0	T	0.83	1.0	0.00	0.00	0.00	0.00
PHLO	0.2	T	0.17	2.0	0.00	0.00	0.00	0.00
*ERFL	0.1	T	-----	1.0	-----	----	----	-----
*PHMU	4.8	0.2	-----	14.0	-----	----	----	-----
TOTAL		6.0	100.00		231.91			1113.17

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #33 Cumberland Exclosure
October 15 to April 15 = 6.22
April 15 to July 1 = 2.45
July 1 to September 1 = 1.20
September 1 to October 15 = 1.49
Season Total = 11.36
Long Term Average = 10.86

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #3 Outside-Native 21 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	436.0	21.8	-----	16.0	-----	----	----	-----
*CHVI	24.1	1.2	-----	9.0	-----	----	----	-----
AGSM	14.9	0.7	14.20	17.0	16.16	0.95	1.08	77.57
AGSP	16.0	0.8	15.25	5.0	10.32	2.06	0.65	49.54
POFE	12.5	0.6	11.92	5.0	8.48	1.70	0.68	40.70
POSE	12.9	0.6	12.30	15.0	5.04	0.34	0.39	24.19
SIHY	0.6	T	0.57	2.0	0.61	0.31	1.02	2.93
PERENNIAL FORBS	92.0	---	-----	16.0	2.73	0.17	0.03	13.10
ERFL	46.0	2.3	43.85	11.0	0.00	0.00	0.00	0.00
TRI	1.1	T	1.05	7.0	0.00	0.00	0.00	0.00
PHLO	0.3	T	0.29	3.0	0.00	0.00	0.00	0.00
CAS	0.6	T	0.57	2.0	0.00	0.00	0.00	0.00
*ANRO	43.0	2.1	-----	3.0	-----	----	----	-----
*PHMU	8.1	0.4	-----	11.0	-----	----	----	-----
*PHHO	28.6	1.4	-----	11.0	-----	----	----	-----
TOTAL		5.2	100.00		43.34			208.03

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #33 - Cumberland Exclosure
October 15 to April 15 = 6.22
April 15 to July 1 = 2.45
July 1 to September 1 = 1.20
September 1 to October 15 = 1.49
Season Total = 11.36
Long Lerm Average = 10.86

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure #3 Outside-Spray 21 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*CHVI	6.0	0.3	----	2.0	----	----	----	-----
AGSP	61.1	3.1	52.90	18.0	96.63	5.37	1.58	463.82
AGSM	7.1	0.4	6.15	8.0	7.55	0.94	1.06	36.24
POFE	33.5	1.7	29.00	13.0	24.03	1.85	0.72	115.34
POSE	11.3	0.6	9.78	10.0	3.75	0.37	0.33	18.00
SIHY	1.0	T	0.87	1.0	2.22	2.22	2.22	10.66
PERENNIAL FORBS	1.5	---	----	5.0	0.51	0.10	0.34	2.45
ERFL	1.0	T	0.87	1.0	0.00	0.00	0.00	0.00
TRI	0.2	T	0.17	2.0	0.00	0.00	0.00	0.00
PHLO	0.3	T	0.26	3.0	0.00	0.00	0.00	0.00
*PHMU	3.0	0.1	----	9.0	----	----	----	-----
TOTAL		5.8		134.69				646.51

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSP	15%
AGSM	5%
POFE	20%
POSE	50%

Total Production adjusted to 777.11 lbs.

Precipitation Data

R.G. #33 Cumberland Exclosure
October 15 to April 15 = 6.22
April 15 to July 1 = 2.45
July 1 to September 1 = 1.20
September 1 to October 15 = 1.49
Season Total = 11.36
Long Term Average = 10.86

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure # 4 Inside-Native 20 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	G	H	I	J
ATNU	6.1	0.3	14.15	2.0	2.32	1.16	0.38	11.14
EULA	24.6	1.2	57.08	14.0	18.92	1.35	0.77	0.77
ARSP	4.5	0.2	10.44	3.0	1.63	0.54	0.36	7.82
AGSM	6.2	0.3	14.39	15.0	12.65	0.84	2.04	60.72
SIHY	1.0	T	2.32	1.0	2.43	2.43	2.43	11.66
ORHY	0.1	T	0.23	1.0	0.34	0.34	3.40	1.63
ANNUAL FORBS	0.5	---	----	5.0	1.64	0.33	3.28	7.87
DEPI	0.5	T	1.16	5.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.1	---	----	1.0	0.37	0.37	3.70	1.78
TRI	0.1	T	0.23	1.0	0.00	0.00	0.00	0.00
*PHHO	206.0	10.3	----	17.0	----	----	----	-----
TOTAL		2.2	100.00		40.30			193.44

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #34 - Cumberland Exc. #4

October 15 to April 15	=	4.03
April 15 to July 1	=	3.40
July 1 to September 1	=	0.21
September 1 to October 15	=	0.96
Season Total	=	8.60
Long Term Average	=	8.40

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Cumberland Exclosure#4 Outside-Native 20 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*CHVI	5.0	0.2	-----	1.0	-----	----	----	-----
ATNU	42.0	2.1	40.15	3.0	18.58	6.19	0.44	89.18
EULA	38.0	1.9	36.33	11.0	19.73	1.79	0.52	94.70
ARSP	12.5	0.6	11.95	2.0	0.80	0.40	0.06	3.84
AGSM	9.7	0.5	9.27	19.0	17.86	0.94	1.84	85.73
SIHY	2.0	0.1	1.91	2.0	1.97	0.99	0.99	9.46
ANNUAL FORBS	0.3	---	-----	3.0	0.30	0.10	1.00	1.44
DEPI	0.3	T	0.29	3.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.1	---	-----	1.0	0.00	0.00	0.00	0.00
ARHO	0.1	T	T	1.0	0.00	0.00	0.00	0.00
*PHHO	146.0	7.3	-----	18.0	-----	----	----	-----
TOTAL		5.2	100.00		59.24			284.35

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #34 - Cumberland Exclosure

October 15 to April 15	= 4.03
April 15 to July 1	= 3.40
July 1 to September 1	= 0.21
September 1 to October 15	= 0.96
Season Total	= 8.60
Long Term Average	= 8.40

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Demer Exclosure Inside-Native 29 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	255.1	12.8	----	12.0	----	----	----	----
SIHY	0.5	T	0.64	1.0	0.16	0.16	0.32	0.77
AGSM	3.4	0.2	4.35	12.0	3.86	0.32	1.14	18.53
AGSP	0.1	T	0.13	1.0	0.74	7.40	7.40	3.55
BOGR	59.0	2.9	75.45	8.0	13.42	1.68	0.23	64.42
POSE	14.7	0.7	18.80	15.0	6.55	0.44	0.45	31.44
ANNUAL FORBS	0.5	---	----	5.0	0.21	0.04	0.42	1.01
PLSP	0.5	T	0.64	5.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.0	---	0.00	0.0	0.00	0.00	0.00	0.00
*OPPO	47.0	2.3	----	3.0	----	----	----	----
TOTAL		3.9	100.00		24.94			119.71

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #8 - Demer Exclosure
October 15 to April 15 = 2.80
April 15 to July 1 = 3.85
July 1 to September 1 = 0.30
September 1 to October 15 = 0.27
Season Total = 7.22
Long Term Average = 7.91

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Demer Exclosure Outside-Native 29 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	378.0	18.9	----	10.0	----	----	----	----
STHY	5.6	0.3	14.81	4.0	4.85	1.21	0.87	23.28
AGSM	1.1	T	2.91	7.0	1.85	0.26	1.68	8.88
AGSP	0.1	T	0.26	1.0	0.48	0.48	4.80	2.30
BOGR	22.2	1.1	58.73	5.0	3.84	0.77	0.17	18.43
POSE	6.2	0.3	16.40	8.0	1.84	0.23	0.30	8.83
BRTE	0.8	T	2.12	8.0	0.81	0.10	1.01	3.89
ANNUAL FORBS	1.8	---	----	16.0	1.74	0.11	0.97	8.35
PISP	1.6	T	4.23	16.0	0.00	0.00	0.00	0.00
LEDE	0.1	T	0.26	1.0	0.00	0.00	0.00	0.00
SAKA	0.1	T	0.26	1.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.0	---	----	0.00	0.00	0.00	0.00	0.00
*OPPO	34.0	1.7	----	4.00	----	----	----	----
TOTAL		1.9	100.00		15.41			73.97

*Not computed in percent composition

T - Trace

Utilization Estimate at Time of Clipping

AGSM	35%

Total Production Adjusted to 78.74 lbs.

Precipitation Data

R.G. # 8 - Demer Exclosure

October 15 to April 15 = 2.80
April 15 to July 1 = 3.85
July 1 to September 1 = .30
September 1 to October 15 = .27
Season Total = 7.22
Long Term Average = 7.91

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Dutch Nick Exclosure Inside-Native 10 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo-sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur-rences Base 200	Wgt./Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
BOGR	3766.5	18.8	98.53	200.0	625.89	0.90	0.17	300.42
POSE	50.0	0.2	1.31	38.0	10.04	0.07	0.20	4.82
ORHY	0.5	T	T	1.0	0.09	0.09	0.18	0.04
SIHY	4.0	T	0.10	5.0	6.96	0.17	1.74	3.34
ANNUAL FORBS	1.5	---	----	12.0	11.92	0.40	7.95	5.72
LEDE	0.5	T	T	5.0	0.00	0.00	0.00	0.00
CHAL	0.2	T	T	2.0	0.00	0.00	0.00	0.00
PLPA	0.4	T	T	4.0	0.00	0.00	0.00	0.00
MATA	0.4	T	T	4.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.0	---	----	0.0	0.00	0.00	0.00	0.00
*OPPO	871.2	4.4	----	84.0	----	----	----	----
TOTAL		19.1	100.00		654.90			314.35

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #4 - Dutch Nick Exclosure

October 15 to April 15 = 1.79

April 15 to July 1 = 2.52

July 1 to September 1 = 0.40

September 1 to October 15 = 0.45

Season Total = 5.16

Long Term Average = 7.00

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Dutch Nick Exclosure Inside- Native 10 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
BOGR	1084.0	18.1	180.13	0.17
POSE	13.0	0.2	2.61	0.20
ORHY	0.5	T	0.09	0.18
SIHY	0.5	T	0.87	1.74
ANNUAL FORBS	0.6	---	4.77	7.95
LEDE	0.1	T	0.00	0.00
CHAL	0.2	T	0.00	0.00
PLPA	0.1	T	0.00	0.00
MATA	0.2	T	0.00	0.00
*OPPO	107.1	1.8	----	----
TOTAL		18.3	188.47	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10

No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Dutch Nick Exclosure Outside-Native 10 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo-sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur-rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
BOGR	3376.1	16.9	97.74	176.0	477.85	0.88	0.14	229.37
POSE	11.0	T	0.32	11.0	9.26	0.38	0.84	4.45
SIHY	7.0	T	0.20	3.0	1.68	0.16	0.24	0.81
STCO	2.0	T	T	1.0	2.72	2.72	1.36	1.31
ANNUAL FORBS	58.0	---	----	22.0	151.44	0.21	2.61	72.69
LEDE	2.0	T	T	2.0	0.00	0.00	0.00	0.00
PLPA	5.0	T	0.14	5.0	0.00	0.00	0.00	0.00
MATA	49.0	0.2	1.42	15.0	0.00	0.00	0.00	0.00
CHAL	1.0	T	T	1.0	0.00	0.00	0.00	0.00
GIPU	1.0	T	T	1.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.0	---	----	0.0	0.00	0.00	0.00	0.00
*OPPO	7138.0	35.7	----	78.0	----	----	----	----
TOTAL		17.3	100.00		642.95			308.62

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #4 - Dutch Nick Exclosure

October 15 to April 15	=	1.79
April 15 to July 1	=	2.52
July 1 to September 1	=	0.40
September 1 to October 15	=	0.45
Season Total	=	5.16
Long Term Average	=	7.00

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with Three 1'x1' Clip Plots

Plot Size 1 x 10

No. Subplots 60

Dutch Nick Exclosure Outside-Native 10 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
BOGR	1099.0	18.3	155.55	0.14
POSE	5.0	T	4.21	0.84
STCO	2.0	T	2.72	1.36
SIHY	2.0	T	0.48	0.24
ANNUAL FORBS	1.8	---	4.70	2.61
LEDE	0.1	T	0.00	0.00
PLPA	0.3	T	0.00	0.00
MATA	1.2	T	0.00	0.00
CHAL	0.1	T	0.00	0.00
GIPU	0.1	T	0.00	0.00
PERENNIAL FORBS	0.0	---	0.00	0.00
*OPPO	165.0	2.7	----	----
TOTAL		18.5	167.66	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Farson Exclosure Inside-Native 19 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	263.0	13.1	----	15.0	----	----	----	----
*CHVI	13.0	0.6	----	3.0	----	----	----	----
*EULA	3.0	0.1	----	1.0	----	----	----	----
AGSM	12.4	0.6	63.59	17.0	22.67	1.33	1.83	108.82
POSE	1.6	T	8.21	3.0	1.42	0.47	0.89	6.82
SIHY	3.5	0.2	17.95	3.0	3.66	1.22	1.05	17.57
STCO	1.0	T	5.13	1.0	1.70	1.70	1.70	8.16
ORHY	1.0	T	5.13	2.0	0.99	0.50	0.99	4.75
PERENNIAL FORBS	0.0	---	----	0.0	0.00	0.00	0.00	0.00
*PHHO	35.5	1.8	----	1.0	----	----	----	----
TOTAL		1.0	100.00		30.44			146.11

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #2 - Farson Exclosure

October 15 to April 15 = 2.92
April 15 to July 1 = 2.85
July 1 to September 1 = 0.22
September 1 to October 15 = 0.40
Season Total = 6.39
Long Term Average = 6.49

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Farson Exclosure Outside-Native 19 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	269.0	13.4	----	16.0	----	----	----	----
*CHVI	5.5	0.3	----	3.0	----	----	----	----
AGSM	9.0	0.4	66.67	18.0	22.70	1.26	2.52	108.96
POSE	0.6	T	4.44	2.0	0.99	0.50	1.65	4.75
STCO	1.1	T	8.15	2.0	2.56	1.28	2.33	12.29
ORHY	1.1	T	8.15	2.0	1.40	0.70	1.27	6.72
SIHY	1.6	T	11.85	3.0	2.03	0.68	1.27	9.74
PERENNIAL FORBS	0.1	---	----	1.0	0.22	0.22	2.20	1.06
ARHO 2	0.1	T	0.74	1.0	0.00	0.00	0.00	0.00
*PHHO	41.0	2.0	----	9.0	----	----	----	----
TOTAL		0.7	100.00		29.90			143.52

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #2 - Farson Exclosure

October 15 to April 15 = 2.92

April 15 to July 1 = 2.85

July 1 to September 1 = 0.22

September 1 to October 15 = 0.40

Season Total = 6.39

Long Term Average = 6.49

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 — No. Plots 20

Cover Determined by Area Estimate

Granite Mountain Exclosure Inside-Native 26 Aug. 1969	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	158.0	7.9	----	13.0	----	----	----	----
AGSM	12.8	0.6	10.60	17.0	25.71	1.51	2.01	123.41
POSE	6.8	0.3	5.63	10.0	4.25	0.42	0.62	20.40
POFE	94.1	4.7	77.96	18.0	39.19	2.18	0.42	188.11
PERENNIAL FORBS	8.0	----	----	12.0	11.65	0.97	1.46	55.92
TRI	0.6	T	0.50	6.0	0.00	0.00	0.00	0.00
ASMI 2	1.3	T	1.08	5.0	0.00	0.00	0.00	0.00
CAS	2.5	0.1	2.07	3.0	0.00	0.00	0.00	0.00
ERPU	2.6	0.1	2.15	6.0	0.00	0.00	0.00	0.00
*PHHO	25.5	1.3	----	9.0	----	----	----	----
*ANRO	1.0	0.0	----	1.0	----	----	----	----
TOTAL		6.0	100.00		80.80			387.84

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #6 - Granite Mountain Exclosure

October 15 to April 15 = 2.36

April 15 to July 1 = 4.22

July 1 to September 1 = 0.45

September 1 to October 15 = 0.90

Season Total = 7.93

Long Term Average = 8.60

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1

No. Plots 20

Cover Determined by Area Estimate

Granite Mountain Exclosure Inside-Spray 26 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo- sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur- rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	82.6	4.1	----	5.0	----	----	----	----
AGSM	30.0	1.5	27.50	20.0	85.57	4.28	2.85	410.74
POSE	17.6	0.9	16.13	11.0	10.55	0.96	0.60	50.64
POFE	57.0	2.8	52.25	13.0	50.41	3.88	0.88	241.97
SIHY	0.5	T	0.46	1.0	0.59	0.59	1.18	2.83
PERENNIAL FORBS	4.0	---	----	7.0	5.90	0.84	1.47	28.32
TRI	0.7	T	0.64	7.0	0.00	0.00	0.00	0.00
ERPU	1.0	T	0.92	1.0	0.00	0.00	0.00	0.00
ASMI 2	2.3	0.1	2.11	7.0	0.00	0.00	0.00	0.00
*PHHO	7.5	0.4	----	3.0	----	----	----	----
TOTAL		5.5	100.00		153.02			734.50

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #6 - Granite Mountain Exclosure

October 15 to April 15 = 2.36

April 15 to July 1 = 4.22

July 1 to September 1 = 0.45

September 1 to October 15 = 0.90

Season Total = 7.93

Long Term Average = 8.60

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Granite Mountain Exclosure Outside-Native 26 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	123.1	6.2	----	14.0	----	----	----	----
*CHVI	4.0	0.2	----	1.0	----	----	----	----
AGSM	8.9	0.4	14.68	19.0	26.32	1.38	2.95	126.34
POSE	9.0	0.4	14.85	9.0	5.14	0.57	0.57	24.67
POFE	33.0	1.6	54.45	15.0	16.00	1.07	0.48	76.80
KOCR	3.0	0.1	4.95	1.0	2.81	2.81	0.94	13.49
PERENNIAL FORBS	6.7	----	----	14.0	8.50	0.61	0.79	40.80
TRI	0.7	T	1.15	7.0	0.00	0.00	0.00	0.00
ASMI 2	1.8	T	2.97	6.0	0.00	0.00	0.00	0.00
ERPU	4.2	0.2	6.93	7.0	0.00	0.00	0.00	0.00
*ANRO	4.0	0.2	----	1.0	----	----	----	----
*PHHO	12.7	0.6	----	10.0	----	----	----	----
TOTAL		3.0	100.00		58.77			282.10

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	20%
POFE	60%
POSE	5%
KOCR	5%

Total production adjusted to 494.90 lbs.

Precipitation Data

R.G. #6 - Granite Mountain Exclosure

October 15 to April 15	= 2.36
April 15 to July 1	= 4.22
July 1 to September 1	= 0.45
September 1 to October 15	= 0.90
Season Total	= 7.93
Long Term Average	= 8.60

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Granite Mountain Exclosure Outside-Spray 26 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	57.1	2.9	----	5.0	----	----	----	----
*CHVI	1.0	0.0	----	1.0	----	----	----	----
POSE	15.6	0.8	18.68	12.0	3.95	0.33	0.25	18.96
POFE	45.0	2.2	53.89	13.0	14.87	1.14	0.33	71.38
AGSM	20.6	1.0	24.67	20.0	34.03	1.70	1.65	163.34
PERENNIAL FORBS	2.3	---	----	10.0	2.91	0.29	1.27	13.97
TRI	0.4	T	0.48	4.0	0.00	0.00	0.00	0.00
ASMI 2	0.3	T	0.36	3.0	0.00	0.00	0.00	0.00
ERPU	1.6	T	1.92	4.0	0.00	0.00	0.00	0.00
*PHHO	14.1	0.7	----	5.0	----	----	----	----
TOTAL		4.2	100.00		55.76			267.65

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	50%
POFE	75%
POSE	10%

Total Production adjusted to 647.24 lbs.

Precipitation Data

R.G. #6 - Granite Mountain Exclosure

October 15 to April 15 = 2.36

April 15 to July 1 = 4.22

July 1 to September 1 = 0.45

September 1 to October 15 = 0.90

Season Total = 7.93

Long Term Average = 8.60

DERIVATION OF WEIGHT/UNIT BASAL AREA- BASE 60
Each of Twenty 1'x1' Plots Subsampled with Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Halogeton Exclosure #1 11 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	1025.5	17.1	420.66	0.41
SIHY	2.0	T	0.66	0.33
ANNUAL FORBS	0.1	---	0.07	0.70
EUSE	0.1	T	0.00	0.00
PERENNIAL FORBS	0.0	---	0.00	0.00
*OPPO	2.0	T	----	----
TOTAL		17.1	421.39	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 — No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Halogeton Exclosure #1 11 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Composition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occurrences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	3707.3	18.5	99.97	129.0	1520.73	3.26	0.41	729.95
SIHY	1.1	T	T	3.0	0.36	0.22	0.33	0.17
ANNUAL FORBS	0.1	---	----	1.0	0.07	0.07	0.70	0.03
EUSE	0.1	T	T	1.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.0	---	----	0.0	0.00	0.00	0.00	0.00
*OPPO	1.0	0.0	----	1.0	----	----	----	----
TOTAL		18.5	100.00		1521.17			730.16

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #24 - Halogeton Exclosure #1

October 15 to April 15	= 0.98
April 15 to July 1	= 4.97
July 1 to September 1	= 0.39
September 1 to October 15	= 0.60
Season Total	= 6.94
Long Term Average	= 5.45

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with Three 1'x1' Clip Plots

Plot Size 1 x 10

No. Subplots 60

Halogeton Exclosure #2 11 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	750.0	12.5	294.16	0.39
ARSP	6.0	0.1	0.67	0.11
SIHY	65.2	1.1	93.95	1.44
POSE	61.0	1.0	34.76	0.57
ANNUAL FORBS	0.9	---	0.49	0.54
GIPU	0.2	T	0.00	0.00
EUSE	0.5	T	0.00	0.00
LEDE	0.2	T	0.00	0.00
TOTAL		14.7	424.03	

= Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 | No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Halogeton Exclosure #2 11 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Composition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occurrences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	2576.5	12.9	83.90	174.0	1010.54	1.69	0.39	485.06
ARSP	22.0	0.1	0.72	3.0	2.46	0.22	0.11	1.18
SIHY	278.8	1.4	9.08	89.0	401.74	1.06	1.44	192.83
POSE	191.0	1.0	6.22	46.0	108.84	0.76	0.57	52.24
ANNUAL FORBS	2.5	---	----	18.0	1.36	0.03	0.54	0.65
GIPU	0.5	T	T	5.0	0.00	0.00	0.00	0.00
EUSE	1.7	T	T	13.0	0.00	0.00	0.00	0.00
LEDE	0.3	T	T	3.0	0.00	0.00	0.00	0.00
TOTAL		15.4	100.00		1524.93			731.97

T - Trace

* Not computed in percent composition

Precipitation Data

R.G.#24 - Halogeton Exclosure #2
October 15 to April 15 = 0.98
April 15 to July 1 = 4.97
July 1 to September 1 = 0.39
September 1 to October 15 = 0.60
Season Total = 6.94
Long Term Average = 5.45

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with
Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Halogeton Exclosure #3 11 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	588.5	9.8	315.53	0.54
SIHY	33.9	0.6	47.61	1.40
ANNUAL FORBS	0.9	---	1.15	1.28
EUSE	0.4	T	0.00	0.00
LARE	0.1	T	0.00	0.00
HAGL	0.4	T	0.00	0.00
PERENNIAL FORBS	0.7	---	8.22	11.74
ALTE	0.2	T	0.00	0.00
MACA	0.5	T	0.00	0.00
*OPPO	4.0	T	----	----
TOTAL		10.4	372.51	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10

No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Halogeton Exclosure #3 11 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo- sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur- rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	1882.5	9.4	93.31	136.0	1009.32	2.32	0.54	484.47
SIHY	131.4	0.7	6.51	77.0	184.54	0.62	1.40	88.58
ANNUAL FORBS	3.0	---	----	27.0	3.83	0.04	1.28	1.84
EUSE	2.0	T	T	20.0	0.00	0.00	0.00	0.00
LARE	0.1	T	T	1.0	0.00	0.00	0.00	0.00
HAGL	0.6	T	T	6.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.9	---	----	5.0	10.56	2.11	11.74	5.06
ALTE	0.4	T	T	4.0	0.00	0.00	0.00	0.00
MACA	0.5	T	T	1.0	0.00	0.00	0.00	0.00
*OPPO	34.5	0.2	----	3.0	----	----	----	----
TOTAL		10.1	100.00		1198.98			579.95

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #24 - Halogeton Exclosure #3

October 15 to April 15	= 0.98
April 15 to July 1	= 4.97
July 1 to September 1	= 0.39
September 1 to October 15	= 0.60
Season Total	= 6.94
Long Term Average	= 5.45

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Halogeton Pasture #1 17 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo- sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur- rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	4511.8	22.6	98.83	172.0	193.70	4.24	0.43	926.74
ARSP	25.5	0.1	0.56	3.0	1.53	0.21	0.06	0.73
SIHY	5.0	T	0.11	3.0	1.62	0.54	0.32	0.78
ANNUAL FORBS	21.7	---	----	98.0	28.01	0.10	1.29	13.44
HAGL	19.3	T	0.42	93.0	0.00	0.00	0.00	0.00
EUSE	1.3	T	T	9.0	0.00	0.00	0.00	0.00
LARE	1.1	T	T	7.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	1.2	---	----	12.0	0.86	0.03	0.72	0.41
ALTE	0.2	T	T	2.0	0.00	0.00	0.00	0.00
MACA	0.3	T	T	3.0	0.00	0.00	0.00	0.00
SPCO	0.7	T	T	7.0	0.00	0.00	0.00	0.00
TOTAL		22.8	100.00		1962.73			942.11

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #24 - Halogeton Pasture #1

October 15 to April 15 = 0.98
April 15 to July 1 = 4.97
July 1 to September 1 = 0.39
September 1 to October 15 = 0.60
Season Total = 6.94
Long Term Average = 5.45

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with
Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Halogeton Pasture #1 17 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	1704.0	28.4	729.18	0.43
ARSP	10.5	0.2	0.63	0.06
SIHY	5.0	T	1.62	0.32
ANNUAL FORBS	7.6	---	9.81	1.29
HAGL	6.7	0.1	0.00	0.00
EUSE	0.2	T	0.00	0.00
LARE	0.7	T	0.00	0.00
PERENNIAL FORBS	0.5	---	0.36	0.72
ALTE	0.1	T	0.00	0.00
MACA	0.3	T	0.00	0.00
SPCO	0.1	T	0.00	0.00
TOTAL		28.8	741.60	

T - Trace

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with Three 1'x1' Clip Plots

Plot Size 1 x 10 — No. Subplots 60

Halogeton Pasture #2 11 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	1141.5	19.0	638.34	0.56
ANNUAL FORBS	0.3	---	0.47	1.57
HAGL	0.3	T	0.00	0.00
TOTAL		19.0	638.81	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10

No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Halogeton Pasture #2 11 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo- sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur- rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	4288.5	21.4	99.97	111.0	2398.18	5.75	0.56	1151.13
ANNUAL FORBS	1.1	---	----	11.0	1.72	0.04	1.57	0.83
HAGL	1.1	T	T	11.0	0.00	0.00	0.00	0.00
TOTAL		21.4	100.00		2399.90			1151.95

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #24 - Halogeton Pasture #2

October 15 to April 15	= 0.98
April 15 to July 1	= 4.97
July 1 to September 1	= 0.39
September 1 to October 15	= 0.60
Season Total	= 6.94
Long Term Average	= 5.45

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with Three 1'x1' Clip Plots

Plot Size 1 x 10 | No. Subplots 60

Halogeton Pasture #4A 17 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	1473.0	24.5	579.88	0.39
ARSP	9.0	0.1	2.76	0.31
SIHY	0.1	T	0.32	3.20
ANNUAL FORBS	22.6	---	45.12	2.00
HAGL	21.0	0.3	0.00	0.00
LARE	1.1	T	0.00	0.00
EUSE	0.3	T	0.00	0.00
LEDE	0.7	T	0.00	0.00
PERENNIAL FORBS	0.2	---	0.48	2.40
MACA	0.1	T	0.00	0.00
SPCO	0.1	T	0.00	0.00
OPPO	9.0	0.1	----	----
TOTAL		25.1	628.56	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Halogeton Pasture #4A 17 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Composition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occurrences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	3667.6	18.3	97.80	152.0	1443.83	3.82	0.39	693.04
ARSP	25.0	0.1	0.67	7.0	7.67	0.39	0.31	3.68
SIHY	0.1	T	T	1.0	0.32	0.32	3.20	0.15
ANNUAL FORBS	57.3	---	----	168.0	114.40	0.27	2.00	54.91
HAGL	54.1	0.3	1.44	161.0	0.00	0.00	0.00	0.00
LARE	2.2	T	T	22.0	0.00	0.00	0.00	0.00
EUSE	0.3	T	T	3.0	0.00	0.00	0.00	0.00
LEDE	0.7	T	T	3.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.2	---	----	2.0	0.48	0.24	2.40	0.23
MACA	0.1	T	T	1.0	0.00	0.00	0.00	0.00
SPCO	0.1	T	T	1.0	0.00	0.00	0.00	0.00
*OPPO	25.5	0.1	----	6.0	----	----	----	----
TOTAL		18.8	100.00		1566.70			752.02

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #24 - Halogeton Pasture #4A

October 15 to April 15 = 0.98

April 15 to July 1 = 4.97

July 1 to September 1 = 0.39

September 1 to October 15 = 0.60

Season Total = 6.94

Long Term Average = 5.45

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Halogeton Pasture #4B 17 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	1322.5	22.0	533.70	0.40
ARSP	7.1	0.1	1.89	0.27
SIHY	2.1	T	2.48	1.18
ANNUAL FORBS	17.2	----	47.15	2.74
HAGL	14.0	0.2	0.00	0.00
LARE	2.3	T	0.00	0.00
LEDE	0.7	T	0.00	0.00
MATA	0.1	T	0.00	0.00
EUSE	0.1	T	0.00	0.00
PERENNIAL FORBS	0.1	----	0.18	1.80
AST SPP	0.1	T	0.00	0.00
OPPO	1.0	T	----	----
TOTAL		22.5	585.40	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Halogeton Pasture #4B 17 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo-sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur-rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	3582.3	17.9	97.58	186.0	1445.65	2.87	0.40	693.91
ARSP	27.1	0.1	0.74	5.0	7.21	0.38	0.27	3.46
SIHY	3.1	T	T	3.0	3.66	0.83	1.18	1.76
ANNUAL FORBS	58.7	---	----	193.0	160.91	0.24	2.74	77.24
HAGL	47.1	0.2	1.28	182.0	0.00	0.00	0.00	0.00
LARE	8.2	T	0.22	78.0	0.00	0.00	0.00	0.00
LEDE	2.0	T	T	20.0	0.00	0.00	0.00	0.00
MATA	0.6	T	T	20.0	0.00	0.00	0.00	0.00
EUSE	0.8	T	T	80.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.1	---	----	10.0	0.18	0.02	1.80	0.09
AST SPP	0.1	T	T	10.0	0.00	0.00	0.00	0.00
*OPPO	102.0	0.5	----	60.0	----	----	----	----
TOTAL		18.4	100.00		1617.62			776.46

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #24 - Halogeton Pasture #48

October 15 to April 15 = 0.98

April 15 to July 1 = 4.97

July 1 to September 1 = 0.39

September 1 to October 15 = 0.60

Season Total = 6.94

Long Term Average = 5.45

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with
Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Halogeton Pasture #5 18 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	1054.0	17.6	461.79	0.44
ARSP	34.0	0.6	4.11	0.12
SIHY	33.7	0.6	35.82	1.06
POSE	4.0	T	5.81	1.45
ANNUAL FORBS	6.8	---	5.38	0.79
LARE	3.4	T	0.00	0.00
HAGL	0.7	T	0.00	0.00
LEDE	0.9	T	0.00	0.00
EUSE	1.8	T	0.00	0.00
PERENNIAL FORBS	0.1	---	2.88	28.80
MACA	0.1	T	0.00	0.00
TOTAL		18.9	515.79	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Halogeton Pasture #5 18 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo- sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur- rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	2764.1	13.8	93.01	172.0	1211.04	2.68	0.44	581.30
ARSP	64.0	0.3	2.15	16.0	7.74	0.26	0.12	3.71
SIHY	107.9	0.5	3.63	110.0	114.69	0.33	1.06	55.05
POSE	14.0	T	0.47	2.0	20.33	2.91	1.45	9.76
ANNUAL FORBS	21.8	---	----	139.0	17.25	0.04	0.79	8.28
LARE	10.2	T	0.34	98.0	0.00	0.00	0.00	0.00
HAGL	2.3	T	T	23.0	0.00	0.00	0.00	0.00
LEDE	2.6	T	T	26.0	0.00	0.00	0.00	0.00
EUSE	6.7	T	0.23	67.0	0.00	0.00	0.00	0.00
OT PERENNIAL FORBS	0.1	---	----	1.0	2.88	2.88	28.80	1.38
MACA	0.1	T	T	1.0	0.00	0.00	0.00	0.00
TOTAL		14.9	100.00		1373.92			659.48

*Not Computed in Percent Composition

T - Trace

Precipitation Data

R.G. #24 - Halogeton Pasture #5

October 15 to April 15	=	0.98
April 15 to July 1	=	4.97
July 1 to September 1	=	0.39
September 1 to October 15	=	0.60
eason Total	=	6.94
ong Term Average	=	5.45

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with Three 1'x1' Clip Plots

Plot Size 1 x 10

No. Subplots 60

Halogeton Pasture #6 18 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	905.0	15.1	400.96	0.44
SIHY	26.3	0.4	27.72	1.05
ANNUAL FORBS	18.0	---	69.37	3.85
HAGL	6.4	0.1	0.00	0.00
LARE	4.0	T	0.00	0.00
MATA	6.7	0.1	0.00	0.00
EUSE	0.7	T	0.00	0.00
SAKA	0.2	T	0.00	0.00
PERENNIAL FORBS	0.0	---	0.00	0.00
*OPPO	3.0	T	----	----
TOTAL		15.8	498.05	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Halogeton Pasture #6 18 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo- sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur- rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	2174.1	10.9	94.17	95.0	963.23	4.22	0.44	462.35
SIHY	59.9	0.3	2.59	71.0	63.13	0.39	1.05	30.30
ANNUAL FORBS	74.7	---	----	170.0	287.89	0.41	3.85	138.19
HAGL	41.0	0.2	1.78	111.0	0.00	0.00	0.00	0.00
LARE	10.6	T	0.46	106.0	0.00	0.00	0.00	0.00
MATA	21.2	0.1	0.92	80.0	0.00	0.00	0.00	0.00
EUSE	1.4	T	T	14.0	0.00	0.00	0.00	0.00
SAKA	0.5	T	T	5.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.0	---	----	0.0	0.00	0.00	0.00	0.00
*OPPO	8.5	0.0	----	3.0	----	----	----	----
TOTAL		11.5	100.00		1314.25			630.84

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #24 - Halogeton Pasture #6

October 15 to April 15 = 0.98
April 15 to July 1 = 4.97
July 1 to September 1 = 0.39
September 1 to October 15 = 0.60
Season Total = 6.94
Long Term Average = 5.45

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Halogeton Pasture #7A 18 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	1347.0	22.4	583.09	0.43
POSE	10.0	0.2	9.21	0.92
SIHY	14.2	0.2	35.76	2.52
ANNUAL FORBS	10.6	---	73.52	6.94
LARE	1.2	T	0.00	0.00
MATA	8.2	0.1	0.00	0.00
EUSE	0.8	T	0.00	0.00
HAGL	0.2	T	0.00	0.00
SAKA	0.1	T	0.00	0.00
LEDE	0.1	T	0.00	0.00
PERENNIAL FORBS	0.0	---	0.00	0.00
PPO	0.1	T	----	----
TOTAL		23.0	701.58	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Halogeton Pasture #7A 18 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Composition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occurrences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	3005.6	15.0	97.54	128.0	1301.07	4.56	0.43	624.51
POSE	10.0	T	0.32	1.0	9.21	9.21	0.92	4.42
SIHY	35.2	0.2	1.14	24.0	88.64	1.49	2.52	42.55
ANNUAL FORBS	30.6	---	----	104.0	212.24	0.71	6.94	101.87
LARE	3.2	T	0.10	32.0	0.00	0.00	0.00	0.00
MATA	18.4	T	0.60	58.0	0.00	0.00	0.00	0.00
EUSE	7.7	T	0.25	34.0	0.00	0.00	0.00	0.00
HAGL	1.0	T	T	10.0	0.00	0.00	0.00	0.00
SAKA	0.1	T	T	1.0	0.00	0.00	0.00	0.00
LEDE	0.2	T	T	2.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.0	---	----	0.0	0.00	0.00	0.00	0.00
*OPPO	1.1	0.0	----	2.0	----	----	----	----
TOTAL		15.4	100.00		1611.16			773.36

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #24 - Halogeton Pasture #7A

October 15 to April 15 = 0.98

April 15 to July 1 = 4.97

July 1 to September 1 = 0.39

September 1 to October 15 = 0.60

Season Total = 6.94

[illegible]ong Term Average = 5.45

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with
Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Halogeton Pasture #7 B 18 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	1047.5	17.5	495.89	0.47
ARSP	11.0	0.2	1.76	0.16
SIHY	18.4	0.3	36.35	1.98
ANNUAL FORBS	13.7	---	100.94	7.37
MATA	13.0	0.2	0.00	0.00
EUSE	0.4	T	0.00	0.00
LEDE	0.3	T	0.00	0.00
PERENNIAL FORBS	0.5	---	3.66	7.32
MACA	0.5	T	0.00	0.00
TOTAL	f	18.2	638.60	

-Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Halogeton Pasture #7B 18 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo- sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur- rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
ATNU	2268.9	11.3	96.24	132.0	1074.10	3.76	0.47	515.57
ARSP	11.0	T	0.47	2.0	1.76	0.88	0.16	0.84
SIHY	39.3	0.2	1.67	32.0	77.64	1.14	1.98	37.27
ANNUAL FORBS	37.9	---	----	108.0	279.24	0.93	7.37	134.04
MATA	36.1	0.2	1.53	98.0	0.00	0.00	0.00	0.00
EUSE	1.2	T	T	12.0	0.00	0.00	0.00	0.00
LEDE	0.6	T	T	6.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.5	---	----	1.0	3.66	3.66	7.32	1.75
MACA	0.5	T	T	1.0	0.00	0.00	0.00	0.00
TOTAL		11.8	100.00		1436.41			689.47

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #24 - Halogeton Pasture #78

October 15 to April 15 = 0.98

April 15 to July 1 = 4.97

July 1 to September 1 = 0.39

September 1 to October 15 = 0.60

Season Total = 6.94

Long Term Average = 5.45

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Horse Creek Exclosure Inside AGSM 31 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	57.0	2.8	----	8.0	----	----	----	----
AGSM	42.0	2.1	88.79	20.0	131.80	6.59	3.14	632.64
POSE	5.3	0.3	11.21	10.0	6.11	0.61	1.15	29.33
PERENNIAL FORBS	0.0	---	----	0.0	0.00	0.00	0.00	0.00
*PHHO	0.5	0.0	----	1.0	----	----	----	----
TOTAL		2.4	100.00		137.91			661.97

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #13 - Horse Creek Exclosure
October 15 to April 15 = 2.70
April 15 to July 1 = 6.00
July 1 to September 1 = 1.10
September 1 to October 15 = 1.00
Season Total = 10.80
Long Term Average = 11.93

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Horse Creek Exclosure Inside- AGSP 31 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo- sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur- rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	108.0	5.4	----	6.0	----	----	----	----
AGSP	47.1	2.4	91.28	19.0	171.65	9.03	3.64	823.92
AGSM	1.4	T	2.71	6.0	5.22	0.87	3.73	25.06
POSE	3.0	0.1	5.81	2.0	2.90	1.45	0.97	13.92
PERENNIAL FORBS	0.1	---	----	1.0	0.04	0.04	0.40	0.19
SPCO	0.1	T	0.19	1.0	0.00	0.00	0.00	0.00
*PHHO	2.1	0.1	----	3.0	----	----	----	----
*OPPO	2.0	0.1	----	3.0	----	----	----	----
TOTAL		2.6	100.00		179.81			863.09

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #12 - Horse Creek Exclosure
October 15 to April 15 = 2.70
April 15 to July 1 = 6.00
July 1 to September 1 = 1.10
September 1 to October 15 = 1.00
Season Total = 10.80
Long Term Average = 11.93

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Horse Creek Exclosure Outside- AGSM 31 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo- sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur- rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	99.0	4.9	----	12.0	----	----	----	-----
AGSM	12.1	0.6	63.02	19.0	57.00	3.00	4.71	273.60
POSE	5.1	0.3	26.56	11.0	6.24	0.57	1.22	29.95
ANNUAL FORBS	1.8	---	----	5.0	6.54	1.31	3.63	31.39
PLSP	0.1	T	0.52	1.0	0.00	0.00	0.00	0.00
SAKA	1.7	T	8.85	4.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.2	---	----	2.0	0.78	0.39	3.90	3.74
PCO	0.2	T	1.04	2.0	0.00	0.00	0.00	0.00
PHHO	2.1	0.1	----	3.0	----	----	----	-----
*OPPO	9.0	0.4	----	2.0	----	----	----	-----
TOTAL		1.0	100.00		70.56			338.69

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	35%
POSE	5%

Total Production adjusted to 486.14 lbs.

Precipitation Data

R.G. #12 - Horse Creek Exclosure

October 15 to April 15 = 2.70
April 15 to July 1 = 6.00
July 1 to September 1 = 1.10
ptember 1 to October 15 = 1.00
Season Total = 10.80
Long Term Average = 11.93

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Horse Creek Exclosure Outside-AGSP 31 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	106.0	5.3	----	7.0	----	----	----	----
*CHVI	52.2	2.6	----	12.0	----	----	----	----
AGSM	9.9	0.5	49.25	15.0	42.74	2.85	4.32	205.15
AGSP	8.1	0.4	40.30	9.0	20.98	2.33	2.59	100.70
POSE	1.6	T	7.96	4.0	1.52	0.38	0.95	7.30
PERENNIAL FORBS	0.6	---	----	1.0	3.00	3.00	5.00	14.40
CHVIZ	0.5	T	2.49	1.0	0.00	0.00	0.00	0.00
*ANRO	0.1	0.0	----	1.0	----	----	----	----
*PHHO	8.1	0.4	----	7.0	----	----	----	----
TOTAL		1.0	100.00		68.24			327.55

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #12 - Horse Creek Exclosure
October 15 to April 15 = 2.70
April 15 to July 1 = 6.00
July 1 to September 1 = 1.10
September 1 to October 15 = 1.00
Season Total = 10.80
Long Term Average = 11.93

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Kane Deer Exclosure Inside-Native 18 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*JUOS	163.0	8.1	----	6.0	----	----	----	----
*ARNO	40.0	2.0	----	1.0	----	----	----	----
AGSP	3.6	0.2	60.00	5.0	2.48	0.50	0.69	11.90
PERENNIAL FORBS	2.4	---	----	5.0	1.64	0.33	0.68	7.87
GISP	0.7	T	11.67	3.0	0.00	0.00	0.00	0.00
SECA	1.1	T	18.33	2.0	0.00	0.00	0.00	0.00
PEAL	0.6	T	10.00	2.0	0.00	0.00	0.00	0.00
*PHHO	0.6	0.0	----	2.0	----	----	----	----
*OPPO	1.0	0.0	----	1.0	----	----	----	----
TOTAL		0.3	100.00		4.12			19.78

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #21 - Kane Deer Exclosure

October 15 to April 15 = 2.79

April 15 to July 1 = 10.40

July 1 to September 1 = 0.74

September 1 to October 15 = 1.82

Season Total = 15.75

Long Term Average = 13.00

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Kane Deer Exclosure Inside-Spray 18 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARFR	15.0	0.7	----	1.0	----	----	----	-----
*GUSA	3.5	0.2	----	2.0	----	----	----	-----
AGSP	7.1	0.4	22.98	7.0	14.53	2.08	2.05	69.74
POSE	2.6	0.1	8.41	5.0	2.49	0.50	0.96	11.95
ANNUAL FORBS	0.7	---	----	3.0	36.94	12.31	52.77	177.31
LARE	0.2	T	0.65	2.0	0.00	0.00	0.00	0.00
DEPI	0.5	T	1.62	1.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	20.6	---	----	18.0	18.65	1.04	0.91	89.52
ARHO2	0.5	T	1.62	1.0	0.00	0.00	0.00	0.00
PEAL	5.1	0.3	16.50	6.0	0.00	0.00	0.00	0.00
ERCO	1.4	T	4.53	6.0	0.00	0.00	0.00	0.00
SECO	3.5	0.2	11.33	3.0	0.00	0.00	0.00	0.00
ERCA	7.3	0.4	23.62	7.0	0.00	0.00	0.00	0.00
LAPU	2.0	0.1	6.47	4.0	0.00	0.00	0.00	0.00
GISP	0.7	T	2.27	3.0	0.00	0.00	0.00	0.00
*ARHO	0.1	0.00	----	1.0	----	----	----	-----
TOTAL		1.5	100.00		72.61			348.53

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #21 - Kane Deer Exclosure
October 15 to April 15 = 2.79
April 15 to July 1 = 10.40
July 1 to September 1 = 0.74
September 1 to October 15 = 1.82
Season Total = 15.75
Long Term Average = 13.00

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Kane Deer Exclosure Outside Native 18 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurances F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*JUOS	95.0	4.7	----	3.0	----	----	----	----
AGSP	2.7	0.1	17.65	6.0	1.87	0.31	0.69	8.98
POSE	0.1	T	0.65	1.0	0.05	0.05	0.50	0.24
AGSM	2.5	0.1	16.34	2.0	0.82	0.41	0.33	3.94
PERENNIAL FORBS	10.9	---	----	14.0	4.35	0.31	0.40	20.88
ERCO	1.6	T	10.46	4.0	0.00	0.00	0.00	0.00
LEAL	3.0	0.1	19.61	2.0	0.00	0.00	0.00	0.00
GISP	0.1	T	0.65	1.0	0.00	0.00	0.00	0.00
PELA	3.1	0.2	20.26	10.0	0.00	0.00	0.00	0.00
ARCO	0.1	T	0.65	1.0	0.00	0.00	0.00	0.00
SECA	2.0	0.1	13.07	2.0	0.00	0.00	0.00	0.00
ARHO 2	0.1	T	0.65	1.0	0.00	0.00	0.00	0.00
TOTAL		0.8	100.00		7.09			34.03

*Not computed in percent composition

T - trace

Precipitation Data

R.G. No. 21 - Kane Deer Exclosure
October 15 to April 15 = 2.79
April 15 to July 1 =10.40
July 1 to September 1 = 0.74
September 1 to October 15 = 1.82
Season Total =15.75
Long Term Average =13.00

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Kane Deer Exclosure Outside-Spray 18 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*JUOS	30.0	1.5	----	2.0	----	----	----	----
*CHVE	0.5	0.0	----	1.0	----	----	----	----
AGSP	17.6	0.9	38.10	11.0	52.13	4.74	2.96	250.22
POSE	1.5	T	3.25	3.0	0.70	0.23	0.47	3.36
ANNUAL FORBS	2.1	---	----	8.0	17.55	2.19	8.36	84.24
LARE	1.2	T	2.60	4.0	0.00	0.00	0.00	0.00
ERCA	0.9	T	1.95	5.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	25.9	---	----	10.0	30.18	3.02	1.17	144.86
SECA	19.2	1.0	41.56	8.0	0.00	0.00	0.00	0.00
ARHO 2	0.5	T	1.08	1.0	0.00	0.00	0.00	0.00
PEAL	1.5	T	3.25	3.0	0.00	0.00	0.00	0.00
ERCO	3.0	0.1	6.49	4.0	0.00	0.00	0.00	0.00
LAPU	0.1	T	0.22	1.0	0.00	0.00	0.00	0.00
GISP	0.6	T	1.33	2.0	0.00	0.00	0.00	0.00
ARCO	0.1	T	0.22	1.0	1.00	0.00	0.00	0.00
*ARHO	0.1	T	0.22	1.0	0.00	0.00	0.00	0.00
TOTAL		2.3	100.00		100.56			482.69

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSP	15%
POSE	50%

Total Production adjusted to 530.20 lbs.

Precipitation Data

R.G. #21 - Kane Deer Exclosure

October 15 to April 15	= 2.79
April 15 to July 1	= 10.40
July 1 to September 1	= 0.74
September 1 to October 15	= 1.82
Season Total	= 15.75
Long Term Average	= 13.00

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Kirby Creek Exclosure Inside- Native 22 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo- sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur- rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*SAVE	7.5	0.4	----	2.0	----	----	----	----
AGSM	11.2	0.6	46.28	13.0	30.51	2.35	2.72	146.45
POSE	7.0	0.3	28.93	5.0	6.22	1.24	0.89	29.86
BRTE	0.1	T	0.41	1.0	0.16	0.16	1.60	0.77
ANNUAL FORBS	5.9	---	----	14.0	10.39	0.74	1.76	49.87
CHAL	0.1	T	0.41	1.0	0.00	0.00	0.00	0.00
LFDE	0.1	T	0.41	1.0	0.00	0.00	0.00	0.00
LFPE	5.7	0.3	23.55	13.0	0.00	0.00	0.00	0.00
TOTAL		1.2	100.00		47.28			226.94

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #77 - Kirby Creek Exclosure

October 15 to April 15 = 3.15

April 15 to July 1 = 3.66

July 1 to September 1 = .36

September 1 to October 15 = .62

Season Total = 7.79

Long Term Average = 8.84

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Kirby Creek Exclosure Outside-Native 22 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*SAVE	337.1	16.9	----	8.0	----	----	----	----
AGSM	6.3	0.3	31.82	9.0	18.44	2.05	2.93	88.51
POSE	5.5	0.3	27.78	3.0	3.25	1.08	0.59	15.60
BRTE	0.4	T	2.02	4.0	1.12	0.28	2.80	5.38
ANNUAL FORBS	7.6	---	----	20.0	34.85	1.74	4.59	167.28
CHAL	0.4	T	2.02	4.0	0.00	0.00	0.00	0.00
LEPE	5.2	0.3	26.26	20.0	0.00	0.00	0.00	0.00
LIRU	1.9	T	9.60	11.0	0.00	0.00	0.00	0.00
SAKA	0.1	T	0.51	1.0	0.00	0.00	0.00	0.00
TOTAL		1.0	100.00		57.66			276.77

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #77 - Kirby Creek Exclosure
October 15 to April 15 = 3.15
April 15 to July 1 = 3.66
July 1 to September 1 = 0.36
September 1 to October 15 = 0.62
Seasonal Total = 7.79
Long Term Average = 8.84

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Lower Gov't Draw Exclosure Inside-Native 25 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	261.0	13.0	----	12.0	----	----	----	-----
AGSM	15.1	0.8	25.29	20.0	28.37	1.42	1.88	136.18
POSE	19.5	1.0	32.66	12.0	11.64	0.97	0.60	55.87
STCO	13.5	0.7	22.61	7.0	27.50	3.93	2.04	132.00
POFE	1.0	T	1.68	1.0	2.38	2.38	2.38	11.42
KOCR	4.0	0.2	6.70	2.0	2.24	1.12	0.56	10.75
BRTE	4.9	0.2	8.21	6.0	8.64	1.44	0.76	41.47
ANNUAL FORBS	0.4	---	----	4.0	0.59	0.15	0.47	2.83
PLPA	0.1	T	0.17	1.0	0.00	0.00	0.00	0.00
LEDE	0.2	T	0.34	2.0	0.00	0.00	0.00	0.00
CHAL	0.1	T	0.17	1.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	1.3	---	----	4.0	5.14	1.29	3.95	24.67
SPCO	0.2	T	0.34	2.0	0.00	0.00	0.00	0.00
ASMI	0.1	T	0.17	1.0	0.00	0.00	0.00	0.00
ASMI 2	1.0	T	1.68	1.0	0.00	0.00	0.00	0.00
TOTAL		3.0	100.00		86.50			415.20

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #16 - Lower Gov't Draw Exclosure
October 15 to April 15 = 2.97
April 15 to July 1 = 4.44
July 1 to September 1 = 0.05
September 1 to October 15 = 0.45
Season Total = 7.91
Long Term Average = 10.21

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Lower Gov't Draw Exclosure Inside-Spray 25 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
AGSM	13.2	0.7	18.03	19.0	27.33	1.44	2.07	131.18
POSE	1.6	T	2.19	3.0	0.90	0.30	0.56	4.32
STCO	41.0	2.0	56.01	13.0	91.73	7.06	2.24	440.30
BRTE	15.6	0.8	21.31	19.0	16.69	0.88	1.07	80.11
ANNUAL FORBS	1.8	---	----	9.0	0.57	0.06	0.32	2.74
LARE	0.1	T	0.14	1.0	0.00	0.00	0.00	0.00
PLPA	0.1	T	0.14	1.0	0.00	0.00	0.00	0.00
LEDE	1.5	T	2.05	6.0	0.00	0.00	0.00	0.00
CAMI	0.1	T	0.14	1.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.0	---	----	0.0	0.00	0.00	0.00	0.00
*OPPO	20.0	1.0	----	1.0	----	----	----	-----
TOTAL		3.7	100.00		137.22			658.66

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #16 - Lover Gov't Draw Exclosure
October 15 to April 15 = 2.97
April 15 to July 1 = 4.44
July 1 to September 1 = 0.05
September 1 to October 15 = 0.45
Season Total = 7.91
Long Term Average = 10.21

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Lower Gov't Draw Exclosure Outside-Native 25 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	216.5	10.8	----	7.0	----	----	----	----
*CHVI	2.0	0.1	----	1.0	----	----	----	----
AGSM	9.6	0.5	19.20	17.0	17.53	1.03	1.83	84.14
POSE	14.1	0.7	28.20	12.0	4.83	0.43	0.34	23.18
STCO	9.0	0.4	18.00	6.0	2.59	0.40	0.29	12.43
POFE	8.0	0.4	16.00	4.0	13.07	3.27	1.63	62.74
SPCR	0.5	T	1.00	1.0	2.70	2.70	5.40	12.96
ANNUAL GRASS	2.7	---	----	14.0	3.64	0.26	1.35	17.47
BRTE	2.1	0.1	4.20	13.0	0.00	0.00	0.00	0.00
FEOC	0.6	T	1.20	6.0	0.00	0.00	0.00	0.00
ANNUAL FORBS	2.8	---	----	14.0	2.96	0.21	1.06	14.21
LEDE	0.9	T	1.80	9.0	0.00	0.00	0.00	0.00
PLPA	1.4	T	2.80	10.0	0.00	0.00	0.00	0.00
GIIN	0.5	T	1.00	5.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	3.3	---	----	10.0	2.52	0.25	0.76	12.10
SPCO	2.5	0.1	5.00	9.0	0.00	0.00	0.00	0.00
PEN	0.1	T	0.20	1.0	0.00	0.00	0.00	0.00
ASMI 2	0.7	T	1.40	3.0	0.00	0.00	0.00	0.00
TOTAL		2.5	100.00		49.84			239.23

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	50%
POSE	20%
STCO	85%

Total Production adjusted to 399.60 lbs.

Precipitation Data

R.G. #16 - Lower Gov't Draw Exclosure

October 15 to April 15 = 2.97

April 15 to July 1 = 4.44

July 1 to September 1 = 0.05

September 1 to October 15 = 0.45

Season Total = 7.91

Long Term Average = 10.21

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Lower Gov't Draw Exclosure Outside-Spray 25 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	0.5	0.0	----	1.0	----	----	----	-----
AGSM	20.7	1.0	21.50	19.0	14.97	0.79	0.72	71.86
POSE	50.7	2.5	52.65	17.0	11.93	0.70	0.24	57.26
STCO	19.0	0.9	19.73	9.0	8.38	0.93	0.44	40.22
BRTE	2.5	0.1	2.60	7.0	2.47	0.35	0.99	11.86
ANNUAL FORBS	0.2	---	----	2.0	0.23	0.12	0.15	1.10
LEDE	0.2	T	0.21	2.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	3.2	---	----	8.0	2.68	0.34	0.84	12.86
SPCO	3.2	0.2	3.32	8.0	0.00	0.00	0.00	0.00
*OPPO	1.0	0.0	----	1.0	----	----	----	-----
TOTAL		4.8	100.00		40.66			195.17

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	65%
POSE	35%
STCO	80%

Total Production adjusted to 520.32 lbs.

Precipitation Data

R.G. #16 - Lower Gov't Draw Exclosure
October 15 to April 15 = 2.97
April 15 to July 1 = 4.44
July 1 to September 1 = 0.05
September 1 to October 15 = 0.45
Season Total = 7.91
Long Term Average = 10.21

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

McGraw Flat Exclosure Inside-Native 25 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	10.0	0.5	----	13.0	----	----	----	-----
*CHVI	3.1	0.2	----	2.0	----	----	----	-----
POSE	24.1	1.2	34.68	10.0	6.64	0.66	0.28	31.87
AGSM	12.6	0.6	18.13	20.0	21.85	1.09	1.73	104.88
POAM	30.5	1.5	43.88	11.0	20.52	1.87	0.67	98.50
PERENNIAL FORBS	2.3	---	----	11.0	2.17	0.20	0.94	10.42
SPCO	0.2	T	0.29	2.0	0.00	0.00	0.00	00.00
ARHO 2	1.1	T	1.58	2.0	0.00	0.00	0.00	00.00
VIAM	0.5	T	0.72	5.0	0.00	0.00	0.00	00.00
CAST	0.1	T	0.14	1.0	0.00	0.00	0.00	00.00
TRI	0.1	T	0.14	1.0	0.00	0.00	0.00	00.00
AGGL	0.1	T	0.14	1.0	0.00	0.00	0.00	00.00
ERPU	0.2	T	0.29	2.0	0.00	0.00	0.00	00.00
*PHHO	27.0	1.3	----	7.0	----	----	----	-----
TOTAL		3.5	100.00		51.18			245.66

*Not Computed in percent composition

T - Trace

Precipitation Data

R.G. # 14 - McGraw Flat Exclosure

October 15 to April 15 = 4.95

April 15 to July 1 = 3.63

July 1 to September 1 = 0.33

September 1 to October 15 = 0.98

Season Total = 9.89

Long Term Average = 9.31

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

McGraw Flat Exclosure Outside-Native 25 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	457.0	22.8	----	15.0	----	----	----	----
*CHVI	24.5	1.2	----	5.0	----	----	----	----
AGSM	5.3	0.3	14.21	20.0	12.82	0.64	2.42	61.54
POSE	28.1	1.4	75.34	16.0	11.76	0.74	0.42	56.45
POAM	0.4	T	1.07	3.0	1.21	0.40	3.02	5.81
FEOC	0.1	T	0.27	1.0	0.08	0.08	0.80	0.38
ANNUAL FORBS	2.0	----	----	1.0	0.54	0.54	0.27	2.59
LEPU	2.0	0.1	5.37	1.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	1.4	----	----	14.0	1.75	0.12	1.25	8.40
TRI	0.1	T	0.27	1.0	0.00	0.00	0.00	0.00
SPCO	0.1	T	0.27	1.0	0.00	0.00	0.00	0.00
VIAM	1.0	T	2.68	10.0	0.00	0.00	0.00	0.00
CAST	0.1	T	0.27	1.0	0.00	0.00	0.00	0.00
CRE	0.1	T	0.27	1.0	0.00	0.00	0.00	0.00
*PHHO	25.0	1.2	----	6.0	----	----	----	----
TOTAL		1.9	100.00		28.16			136.17

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #14 - McGraw Flat Exclosure
October 15 to April 15 = 4.95
April 15 to July 1 = 3.63
July 1 to September 1 = 0.33
September 1 to October 15 = 0.98
Season Total = 9.89
Long Term Average = 9.31

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

North Butte Relic Area Exclosure Native 30 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	53.0	2.6	----	3.0	----	----	----	----
AGSM	1.5	T	0.95	2.0	1.60	0.80	1.07	7.68
STCO	32.6	1.6	20.63	11.0	22.33	2.03	0.68	107.18
BOGR	36.0	1.8	22.78	7.0	6.38	0.91	0.18	30.62
AGSP	40.5	2.0	25.63	8.0	45.62	5.70	1.13	218.98
CAFI	46.5	2.3	29.43	17.0	21.02	1.24	0.45	100.90
PERENNIAL FORBS	0.9	---	----	9.0	1.08	0.12	1.20	5.18
SPCO	0.9	T	0.57	9.0	0.00	0.00	0.00	0.00
*PHHO	4.7	0.2	----	4.0	----	----	----	----
*OPPO	2.0	0.1	----	1.0	----	----	----	----
TOTAL		7.9	100.00		98.03			470.54

*Not computed in percent composition

T - Trace

Precipitation Data

Thermopolis 2 Weather Bureau Station

October 15 to April 15	= 2.85
April 15 to July 1	= 4.20
July 1 to September 1	= 0.16
September 1 to October 15	= 0.57
Season Total	= 7.78
Long Term Average	= 11.01

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1

No. Plots 20

Cover Determined by Area Estimate

Round Top Relic Native 30 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	17.0	0.8	----	1.0	----	----	----	----
*CHVI	4.0	0.2	----	1.0	----	----	----	----
AGSP	68.0	3.4	51.71	14.0	88.38	6.31	1.30	424.22
STCO	17.2	0.9	13.08	13.0	27.94	2.15	1.62	134.11
KOCR	0.2	T	0.15	2.0	1.81	0.91	9.05	8.69
POSE	1.4	T	1.06	6.0	1.67	0.28	1.19	8.02
CAFI	44.5	2.2	33.84	14.0	22.50	1.61	0.51	108.00
ANNUAL FORBS	0.2	---	----	2.0	0.78	0.39	3.90	3.74
LARE	0.1	T	T	1.0	0.00	0.00	0.00	0.00
LAC	0.1	T	T	1.0	0.00	0.00	0.00	0.00
TOTAL		6.6	100.00		143.08			686.78

*Not computed in percent composition

T - Trace

Precipitation Data

Thermopolis 2 Weather Station Bureau

October 15 to April 15 = 2.85
April 15 to July 1 = 4.20
July 1 to September 1 = 0.16
September 1 to October 15 = 0.57
Season Total = 7.78
Long Term Average = 11.01

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with
Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Sand Gulch Exclosure Inside-Native 22 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	842.0	14.0	304.78	0.36
POSE	24.1	0.4	7.31	0.30
AGSM	39.4	0.7	22.86	0.58
ORHY	10.0	0.2	4.10	0.41
SIHY	3.0	T	1.90	0.63
BOGR	38.0	0.6	18.72	0.49
ANNUAL GRASS	14.8	---	56.66	3.83
BRTE	14.7	0.2	0.00	0.00
MUSQ	0.1	T	0.00	0.00
TOTAL		16.2	416.33	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Sand Gulch Exclosure Inside-Native 22 July '69	Totalq Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo-sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur-rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	2001.1	10.0	86.26	111.0	724.34	2.75	0.36	347.68
POSE	55.6	0.3	2.40	30.0	16.86	0.24	0.30	8.09
AGSM	84.1	0.4	3.63	71.0	48.80	0.32	0.58	23.42
ORHY	10.0	T	0.43	2.0	4.10	2.05	0.41	1.97
SIHY	4.5	T	0.19	5.0	2.85	0.38	0.63	1.37
BOGR	118.0	0.6	5.09	6.0	58.13	3.12	0.49	27.90
ANNUAL GRASS	46.6	---	----	164.0	178.40	0.35	3.83	85.63
BRTE	46.5	0.2	2.00	164.0	0.00	0.00	0.00	0.00
MUSQ	0.1	T	T	1.0	0.00	0.00	0.00	0.00
TOTAL		11.6	100.00		1033.48			496.07

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #75 - Sand Gulch Exclosure

October 15 to April 15	=	3.51
April 15 to July 1	=	3.19
July 1 to September 1	=	0.33
September 1 to October 15	=	0.49
Season Total	=	7.52
Long Term Average	=	9.21

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Sand Gulch Exclosure Outside-Native 22 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	390.1	6.5	242.98	0.62
BOGR	352.1	5.9	69.00	0.20
SPAI	12.0	0.2	14.17	1.18
POSE	3.1	T	8.01	2.58
ANNUAL GRASS	52.6	---	99.57	1.89
BRTE	26.7	0.4	0.00	0.00
MUSQ	25.9	0.4	0.00	0.00
ANNUAL FORBS	2.2	---	4.10	1.86
PLSP	1.8	T	0.00	0.00
LEDE	0.4	T	0.00	0.00
PERENNIAL FORBS	0.0	---	0.00	0.00
*OPPO	78.0	1.3	----	----
TOTAL		13.5	437.83	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Sand Gulch Exclosure Outside-Native 22 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo-sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur-rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	651.1	3.3	40.21	45.0	405.55	5.40	0.62	194.66
BOGR	813.6	4.1	50.25	101.0	159.44	0.68	0.20	76.53
SPAI	23.0	0.1	1.42	4.0	27.16	3.54	1.18	13.04
POSE	3.2	T	0.20	3.0	8.27	2.67	2.58	3.97
ANNUAL GRASS	120.8	---	----	196.0	228.67	0.51	1.89	109.76
BRTE	73.7	0.4	4.55	191.0	0.00	0.00	0.00	0.00
MUSQ	47.1	0.2	2.91	19.0	0.00	0.00	0.00	0.00
ANNUAL FORBS	7.4	---	----	69.0	13.79	0.06	1.86	6.62
PLSP	6.6	T	0.41	62.0	0.00	0.00	0.00	0.00
LEDE	0.8	T	T	8.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.0	---	----	0.0	0.00	0.00	0.00	0.00
*OPPO	722.0	3.6	----	29.0	----	----	----	----
TOTAL		8.1	100.00		842.88			404.58

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #75 - Sand Gulch Exclosure

October 15 to April 15 = 3.51

April 15 to July 1 = 3.19

July 1 to September 1 = 0.33

September 1 to October 15 = 0.49

Season Total = 7.52

Long Term Average = 9.21

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Shoshoni Ant Exclosure #2 Inside-Native 27 Aug.'69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	96.1	4.8	----	9	----	----	----	----
AGSM	1.1	T	0.79	7	3.96	0.57	3.60	19.01
STCO	2.5	0.1	1.80	2	8.88	4.44	3.55	42.62
BOGR	133.0	6.6	95.68	13	37.71	2.90	0.28	181.01
POSE	2.2	0.1	1.58	3	1.85	0.62	0.84	8.88
PERENNIAL FORBS	0.2	---	----	3	1.24	0.41	6.20	5.95
SPCO	0.1	T	T	1	0.00	0.00	0.00	0.00
ALTE	0.1	T	T	1	0.00	0.00	0.00	0.00
*PHHO	2.0	0.1	----	1	----	----	----	----
*OPPO	18.0	0.9	----	3	----	----	----	----
TOTAL		6.9	100.00		53.64			257.47

*Not computed in percent composition

T - Trace

Precipitation Data:

	R. G. #47 - Muskrat Creek	R. G. #158 - Shoshoni Ant #2
October 15 to April 15	= 1.27	= Not taken
April 15 to July 1	= 4.24	= 4.10
July 1 to September 1	= 0.10	= 0.12
September 1 to October 15	= 0.30	= 0.45
Season Total	= 5.91	= 4.67
Long Term Average	= 6.94	

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Shoshoni Ant Exclosure #4 Inside-Native 27 Aug.'69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	71.0	3.5	----	4	----	----	----	----
AGSM	2.6	0.1	2.54	10	8.90	0.89	3.42	42.72
BOGR	87.0	4.3	84.88	12	24.20	2.02	0.28	116.16
POSE	2.6	0.1	2.54	4	2.59	0.65	1.00	12.43
STCO	9.0	0.4	8.78	2	16.22	8.11	1.80	77.86
ANNUAL FORBS	0.3	---	----	6	1.56	0.26	5.20	7.49
LEDE	0.1	T	T	1	0.00	0.00	0.00	0.00
PLSP	0.1	T	T	1	0.00	0.00	0.00	0.00
PLPA	0.4	T	0.39	4	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.7	---	----	3	1.00	0.33	1.43	4.80
SPCO	0.7	T	0.68	3	0.00	0.00	0.00	0.00
*OPPO	87.0	4.3	----	5	----	----	----	----
TOTAL		5.1	100.00		54.47			261.46

*Not computed in percent composition

T - Trace

Precipitation Data:

	R. G. #47 - Muskrat Creek	R. G. #158 - Shoshoni Ant #4
October 15 to April 15	= 1.27	= Not taken
April 15 to July 1	= 4.24	= 4.10
July 1 to September 1	= 0.10	= 0.12
September 1 to October 15	= 0.30	= 0.45
Season Total	= 5.91	= 4.67
Long Term Average	= 6.94	

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Shoshoni Ant Exclosure #7 Inside-Native 27 Aug.'69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	186.6	9.3	----	15	----	----	----	----
AGSM	4.6	0.2	9.45	17	18.07	1.06	3.93	86.74
BOGR	34.5	1.7	70.84	6	17.01	2.84	0.49	81.65
STCO	7.0	0.3	14.37	4	11.53	2.88	1.65	55.34
POSE	1.8	T	3.70	6	2.46	0.41	1.37	11.81
ANNUAL FORBS	0.6	---	----	2	0.80	0.40	1.33	3.84
PLPA	0.6	T	1.23	2	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.2	---	----	2	1.56	0.78	7.80	7.49
SPCO	0.2	T	0.41	2	0.00	0.00	0.00	0.00
TOTAL		2.4	100.00		51.43			246.86

*Not computed in percent composition

T - Trace

Precipitation Data:

	R. G. #47 - Muskrat Creek	R. G. #158 - Shoshoni Ant #7
October 15 to April 15	= 1.27	= Not taken
April 15 to July 1	= 4.24	= 4.10
July 1 to September 1	= 0.10	= 0.12
September 1 to October 15	= 0.30	= 0.45
Season Total	= 5.91	= 4.67
Long Term Average	= 6.94	

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Shoshoni Ant Exclosure #8 Inside-Native 27 Aug.'69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	38.0	1.9	----	5	----	----	----	----
AGSM	12.3	0.6	12.95	16	40.08	2.51	3.26	192.38
STCO	4.5	0.2	4.74	3	8.65	2.88	1.92	41.52
POSE	6.0	0.3	6.32	4	2.02	0.51	0.34	9.70
BOGR	70.0	3.5	73.68	8	32.67	4.08	0.47	156.82
SIHY	2.0	0.1	2.11	1	1.00	1.00	0.50	4.80
ANNUAL FORBS	0.1	---	----	1	0.60	0.60	6.00	2.88
PLPA	0.1	T	0.11	1	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.1	---	----	1	0.15	0.15	1.50	0.72
SPCO	0.1	T	0.11	1	0.00	0.00	0.00	0.00
*OPPO	37.0	1.8	----	3	----	----	----	----
TOTAL		4.7	100.00		85.17			408.82

*Not computed in percent composition

T - Trace

Precipitation Data:

R. G. #47 - Muskrat Creek		R. G. #158 - Shoshoni Ant #8
October 15 to April 15	= 1.27	= Not taken
April 15 to July 1	= 4.24	= 4.10
July 1 to September 1	= 0.10	= 0.12
September 1 to October 15	= 0.30	= 0.45
Season Total	= 5.91	= 4.67
Long Term Average	= 6.94	

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Shoshoni Ant Exclosure #9 Inside-Native 27 Aug.'69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	156.5	7.8	----	12	----	----	----	----
AGSM	4.1	0.2	5.51	16	14.57	0.91	3.55	69.94
BOGR	62.0	3.1	83.33	9	20.62	2.29	0.33	98.98
STCO	4.5	0.2	6.05	3	5.69	1.90	1.26	27.31
POSE	3.7	0.2	4.97	7	3.84	0.55	1.04	18.43
ANNUAL FORBS	0.1	---	----	1	0.70	0.70	7.00	3.36
PLPA	0.1	T	0.13	1	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.0	---	----	0	0.00	0.00	0.00	0.00
*PHHO	2.0	0.1	----	1	----	----	----	----
*OPPO	68.0	3.4	----	4	----	----	----	----
TOTAL		3.7	100.00		45.42			218.02

*Not computed in percent composition

T - Trace

Precipitation Data

R. G. #47 - Muskrat Creek		R. G. #158 - Shoshoni Ant #9
October 15 to April 15	= 1.27	= Not taken
April 15 to July 1	= 4.24	= 4.10
July 1 to September 1	= 0.10	= 0.12
September 1 to October 15	= 0.30	= 0.45
Season Total	= 5.91	= 4.67
Long Term Average	= 6.94	

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1

No. Plots 20

Cover Determined by Area Estimate

Shoshoni Ant Exclosure #11 Inside-Native 27 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-ences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	49.6	2.5	----	9.0	----	----	----	----
AGSM	4.5	0.2	2.42	11.0	12.84	1.17	2.85	61.63
POSE	7.8	0.4	4.20	9.0	4.62	0.51	0.59	22.18
BOGR	171.1	8.6	92.19	12.0	38.92	3.24	0.23	186.82
ANNUAL FORBS	1.7	---	----	12.0	4.38	0.37	2.58	21.02
LEDE	0.2	T	0.11	2.0	0.00	0.00	0.00	0.00
PLPA	1.5	T	0.81	11.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.5	---	----	5.0	1.47	0.29	2.94	7.06
SPCO	0.4	T	0.22	4.0	0.00	0.00	0.00	0.00
ERPU	0.1	T	T	1.0	0.00	0.00	0.00	0.00
*OPPO	34.0	1.7	----	4.0	----	----	----	----
TOTAL		9.3	100.00		62.23			298.70

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. No. 47 - Muskrat Creek		R.G. No. 158
October 15 to April 15	= 1.27	= Not taken
April 15 to July 1	= 4.24	= 4.10
July 1 to September 1	= 0.10	= 0.12
September 1 to October 15	= 0.30	= 0.45
Season Total	= 5.91	= 4.67
Long Term Average	= 6.94	

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Smilo Exclosure Inside-Native 29 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	257.0	12.8	----	10.0	----	----	----	----
BOGR	13.0	0.6	25.34	3.0	3.44	1.15	0.26	16.51
STCO	11.0	0.5	21.44	4.0	8.34	2.09	0.76	40.03
AGSM	3.8	0.2	7.41	11.0	7.53	0.68	1.98	36.14
POSE	22.5	1.1	43.86	11.0	7.10	0.65	0.32	34.08
ANNUAL FORBS	1.0	---	----	10.0	0.71	0.07	0.71	3.41
PLSP	1.0	T	1.95	10.0	0.00	0.00	0.00	0.00
TOTAL		2.6	100.00		27.12			130.18

*Not computed in percent composition

T - Trace

Note: Utilization of STCO noticeable (probably due to rodents)

Precipitation Data

R.G. #36 - Smilo Exclosure

October 15 to April 15 = 2.47

April 15 to July 1 = 3.61

July 1 to September 1 = 0.20

September 1 to October 15 = 0.30

Season Total = 6.58

Long Term Average = 8.36

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Smilo Exclosure Inside-Spray 29 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms /20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
STCO	17.0	0.8	51.67	8.0	14.72	1.84	0.87	70.66
AGSM	1.2	T	3.65	8.0	2.41	0.30	2.01	11.57
SIHY	3.0	0.1	9.12	1.0	1.34	1.34	0.45	6.43
BOGR	4.0	0.2	12.16	1.0	2.17	2.17	0.54	10.42
POSE	0.5	T	1.52	1.0	0.25	0.25	0.50	1.20
ANNUAL GRASS	6.3	---	----	20.0	17.33	0.87	2.75	83.18
BRTE	6.2	0.3	18.84	20.0	0.00	0.00	0.00	0.00
FEOC	0.1	T	0.30	1.0	0.00	0.00	0.00	0.00
ANNUAL FORBS	0.7	---	----	7.0	2.14	0.31	3.06	10.27
PLSP	0.6	T	1.82	6.0	0.00	0.00	0.00	0.00
SAKA	0.1	T	0.30	1.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.2	---	----	2.0	0.05	0.03	0.25	0.24
ERPU	0.2	T	0.61	2.0	0.00	0.00	0.00	0.00
*OPPO	0.5	0.0	----	1.0	----	----	----	-----
TOTAL		1.6	100.00		40.41			193.97

*Not computed in percent composition

T - Trace

Note: Utilization of STCO noticeable (probably due to rodents)

Precipitation Data

R.G. #36- Smilo Exclosure
October 15 to April 15 = 2.47
April 15 to July 1 = 3.61
July 1 to September 1 = 0.21
September 1 to October 15 = 0.30
Season Total = 6.58
Long Term Average = 8.36

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Smilo Exclosure Outside-Native 29 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	256.6	12.8	----	13.0	----	----	----	----
POSE	18.8	0.9	86.64	17.0	10.62	0.62	0.56	50.98
SICO	0.6	T	2.76	2.0	0.54	0.27	0.90	2.59
AGSM	0.7	T	3.23	7.0	1.45	0.21	2.07	6.96
SIHY	0.1	T	0.46	1.0	0.09	0.09	1.90	2.74
BRTE	0.3	T	1.38	3.0	0.57	0.19	1.90	2.74
ANNUAL FORBS	1.2	---	----	12.0	2.68	0.22	2.23	12.86
PLSP	1.2	T	5.53	12.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.00	---	----	0.0	0.00	0.00	0.00	0.00
*OPPO	9.5	0.5	----	2.0	0.00	0.00	0.00	0.00
TOTAL		1.1	100.00		15.95			76.56

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	50%

Total Production adjusted to 83.52 lbs.

Precipitation Data

R.G. #36 - Smilo Exclosure

October 15 to April 15 = 2.47
April 15 to July 1 = 3.61
July 1 to September 1 = 0.20
September 1 to October 15 = 0.30
Season Total = 6.58
Long Term Average = 8.36

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Smilo Exclosure Outside-Spray 29 July '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Composition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occurrences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
POSE	9.2	0.5	30.36	7.0	5.13	0.73	0.56	25.62
AGSM	1.5	T	4.95	11.0	4.68	0.43	3.12	22.46
STCO	4.0	0.2	13.20	2.0	5.59	2.80	1.40	26.83
BOGR	10.0	0.5	33.00	1.0	2.25	2.25	0.22	10.80
ANNUAL GRASS	3.7	---	----	17.0	14.95	0.88	4.04	71.76
BRTE	3.3	0.2	10.89	17.0	0.00	0.00	0.00	0.00
FEOC	0.4	T	1.32	4.0	0.00	0.00	0.00	0.00
ANNUAL FORBS	1.9	---	----	14.0	4.01	0.29	2.11	19.25
PLSP	1.8	T	5.94	14.0	0.00	0.00	0.00	0.00
SAKA	0.1	T	0.33	1.0	0.00	0.00	0.00	0.00
TOTAL		1.5	100.00		36.61			175.73

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	60%
STCO	35%

Total Production adjusted to 223.86 lbs.

Precipitation Data

R.G. #36 - Smilo Exclosure

October 15 to April 15	= 2.47
April 15 to July 1	= 3.61
July 1 to September 1	= 0.20
September 1 to October 15	= 0.30
Season Total	= 6.58
Long Term Average	= 8.36

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Sweetwater Exclosure Inside- Native 5 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo- sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur- rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	172.0	8.6	----	4.0	----	----	----	----
GUSA	1.5	T	2.20	3.0	0.78	0.26	0.52	3.74
CAFI	3.6	0.2	5.29	5.0	1.95	0.39	0.54	9.36
CAEL	0.7	T	1.03	7.0	2.14	0.31	3.06	10.27
STCO	26.2	1.3	38.47	16.0	24.67	1.54	0.94	118.42
POSE	7.9	0.4	11.60	11.0	2.62	0.24	0.33	12.58
KOCR	22.5	1.1	33.04	11.0	15.39	1.40	0.68	73.87
AGSM	3.0	0.1	4.41	14.0	7.41	0.53	2.47	35.57
PERENNIAL FORBS	2.7	---	----	4.0	7.03	1.76	2.60	33.74
EROV	0.1	T	0.15	1.0	0.00	0.00	0.00	0.00
ASMI 2	0.5	T	0.73	1.0	0.00	0.00	0.00	0.00
PEN	1.0	T	1.47	1.0	0.00	0.00	0.00	0.00
ALTE	0.1	T	0.15	1.0	0.00	0.00	0.00	0.00
AST	1.0	T	1.47	1.0	0.00	0.00	0.00	0.00
*PHHO	5.1	0.3	----	4.0	----	----	----	----
*OPPO	6.0	0.3	----	1.0	----	----	----	----
TOTAL		3.4	100.00		61.99			297.55

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #11 - Sweetwater Exclosure

October 15 to April 15	= 2.8*
April 15 to July 1	= 3.6*
July 1 to September 1	= 0.58**
September 1 to October 15	= 0.80**
Season Total	= 7.78
Long Term Average	= 7.16

*Data used is from Oregon Trail Crossing Weather Bureau Station

**Data used is from Sand Draw Weather Bureau Station

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Sweetwater Exclosure Outside- Native 5 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo- sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur- rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	61.0	3.0	----	4.0	----	----	----	----
*ARNO	56.0	2.8	----	2.0	----	----	----	----
*CHVI	4.5	0.2	----	2.0	----	----	----	----
GUSA	8.0	0.4	8.65	6.0	8.95	1.49	1.12	42.96
AGSM	1.5	T	1.62	15.0	2.91	0.19	1.94	13.97
STCO	17.4	0.9	18.81	14.0	10.36	0.74	0.60	49.73
POSE	8.5	0.4	9.19	12.0	1.79	0.15	0.21	8.59
KOCR	8.1	0.4	8.76	9.0	5.74	0.64	0.71	27.55
CAFI	38.6	1.9	41.73	15.0	9.13	0.61	0.24	43.82
CAEL	1.9	T	2.05	12.0	2.18	0.18	1.15	10.46
ANNUAL FORBS	0.1	---	----	1.0	0.08	0.08	0.80	0.38
CHAL	0.1	T	0.11	1.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	8.4	---	----	10.0	10.29	1.03	1.22	49.39
ARHO 2	0.1	T	0.11	1.0	0.00	0.00	0.00	0.00
*PHHO	3.0	0.1	----	2.0	----	----	----	----
ASMI 2	5.0	0.2	5.41	1.0	0.00	0.00	0.00	0.00
EROV	1.7	T	1.84	4.0	0.00	0.00	0.00	0.00
ASPU	0.5	T	0.54	1.0	0.00	0.00	0.00	0.00
PEN	0.1	T	0.11	1.0	0.00	0.00	0.00	0.00
PSTE	1.0	T	1.08	6.0	0.00	0.00	0.00	0.00
Total		4.6	100.00		51.43			246.86

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #11 - Sweetwater Exclosure
October 15 to April 15 = 2.80*
April 15 to July 1 = 3.60*
July 1 to September 1 = 0.58**
September 1 to October 15 = 0.80**
Season Total = 7.78
Long Term Average = 7.16

*Data used is from Oregon Trail Crossing Weather Bureau Station
**Data used is from Sand Draw Weather Bureau Station

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with
Three 1'x1' Clip Plots

Plot Size 1 x 10 No. Subplots 60

Two Mile Hill Exclosure Inside- Native 19 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	415.0	6.9	175.58	0.42
POSE	38.0	0.6	15.99	0.42
SIHY	3.7	T	3.14	0.85
AGCR	5.0	T	11.59	2.32
ANNUAL GRASS	28.8	---	98.05	3.40
BRCO	3.2	T	0.00	0.00
BRTE	25.6	0.4	0.00	0.00
ANNUAL FORBS	9.3	---	9.93	1.07
MATA	8.0	0.1	0.00	0.00
LEDE	1.1	T	0.00	0.00
HEPE	0.1	T	0.00	0.00
PLSP	0.1	T	0.00	0.00
PERENNIAL FORBS	2.6	---	21.80	8.38
MACA	2.6	T	0.00	0.00
TOTAL		8.4	336.08	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

Two Mile Hill Exclosure Inside-Native 19 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo-sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur-rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	951.4	4.8	82.12	118.0	402.52	1.49	0.42	193.21
POSE	90.3	0.5	7.79	53.0	38.00	0.30	0.42	18.24
SIHY	11.2	T	0.97	13.0	9.50	0.24	0.85	4.56
AGCR	5.0	T	0.43	2.0	11.59	5.79	2.32	5.56
ANNUAL GRASS	90.6	---	----	195.0	308.45	0.50	3.40	148.06
BRCO	10.8	T	0.93	61.0	0.00	0.00	0.00	0.00
BRTE	79.8	0.4	6.89	189.0	0.00	0.00	0.00	0.00
ANNUAL FORBS	5.8	---	----	25.0	6.19	0.40	1.07	2.97
MATA	3.6	T	0.31	11.0	0.00	0.00	0.00	0.00
LEDE	2.0	T	0.17	11.0	0.00	0.00	0.00	0.00
HEPE	0.1	T	T	1.0	0.00	0.00	0.00	0.00
PLSP	0.1	T	T	1.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	4.2	---	----	22.0	35.22	0.99	8.38	16.90
MACA	4.2	T	0.36	22.0	0.00	0.00	0.00	0.00
TOTAL		5.8	100.00		811.47			389.51

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #39 - Two Mile Hill Exclosure

October 15 to April 15 = 3.51

April 15 to July 1 = 4.98

July 1 to September 1 = 0.03

September 1 to October 15 = 0.42

Season Total = 8.94

Long Term Average = 10.43

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with
Three 1'x1' Clip Plots

Plot Size 1 x 10 | No. Subplots 60

Two Mile Hill Exclosure Outside-Native 19 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	929.0	15.5	348.59	0.38
POSE	13.5	0.2	4.26	0.32
SIHY	2.8	T	6.54	2.34
ORHY	5.6	T	2.23	0.40
ANNUAL GRASS	4.3	---	25.18	5.86
BRTE	2.3	T	0.00	0.00
BRCO	2.0	T	0.00	0.00
ANNUAL FORBS	1.3	---	1.09	0.84
LEDE	0.2	T	0.00	0.00
HEPE	1.1	T	0.00	0.00
PERENNIAL FORBS	8.9	---	27.71	3.11
MACA	8.9	0.1	0.00	0.00
TOTAL		16.1	415.60	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. of Subplots Adjusted to 200

Cover Determined by Area Estimate

Two Mile Hill Exclosure Outside- Native 19 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo- sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur- rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	2310.2	11.6	95.95	110.0	866.86	3.17	0.38	416.09
POSE	28.1	0.1	1.17	18.0	8.87	0.24	0.32	4.26
SIHY	11.6	T	0.48	40.0	27.09	0.16	2.34	13.01
ORHY	9.9	T	0.41	9.0	3.94	0.25	0.40	1.89
ANNUAL GRASS	16.1	---	----	126.0	94.28	0.20	5.86	45.25
BRTE	7.1	T	0.29	67.0	0.00	0.00	0.00	0.00
BRCO	9.0	T	0.37	82.0	0.00	0.00	0.00	0.00
ANNUAL FORBS	2.6	---	----	26.0	2.18	0.04	0.84	1.05
LEDE	0.3	T	T	3.0	0.00	0.00	0.00	0.00
HEPE	2.3	T	T	23.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	29.1	---	----	155.0	90.60	0.18	3.11	43.49
MACA	29.1	0.1	1.21	155.0	0.00	0.00	0.00	0.00
TOTAL		12.0	100.00		1093.82			525.04

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #39 - Two Mile Hill Exclosure

October 15 to April 15 = 3.51

April 15 to July 1 = 4.98

July 1 to September 1 = 0.03

September 1 to October 15 = 0.42

Season Total = 8.94

Long Term Average = 10.43

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES
(PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Upper Gov't Draw Exclosure Inside-Native 23 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo- sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur- rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	190.0	9.5	----	10.0	----	----	----	-----
AGSM	11.7	0.6	30.39	20.0	39.69	1.98	3.39	190.51
POSE	14.4	0.7	37.40	12.0	11.20	0.93	0.78	53.76
POFE	10.1	0.5	26.23	4.0	12.28	3.07	1.22	58.94
KOCR	1.7	T	4.42	4.0	3.22	0.80	1.89	15.46
ANNUAL FORBS	0.3	---	----	3.0	1.12	0.37	3.73	5.38
PLSP	0.3	T	0.78	3.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.3	---	----	3.0	1.30	0.43	4.33	6.24
MACA	0.1	T	0.26	1.0	0.00	0.00	0.00	0.00
ERPU	0.1	T	0.26	1.0	0.00	0.00	0.00	0.00
SPCO	0.1	T	0.26	1.0	0.00	0.00	0.00	0.00
*PHHO	26.0	1.3	----	12.0	----	----	----	-----
TOTAL		1.9	100.00		68.81			330.29

*Not computed in percent composition

T - Trace

Precipitation Data
R.G. #9 - Upper Gov't Draw Exclosure
October 15 to April 15 = 3.67
April 15 to July 1 = 3.32
July 1 to September 1 = 0.08
September 1 to October 15 = 0.63
Season Total = 7.70
Long Term Average = 8.01

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Upper Gov't Draw Exclosure Inside-Spray 23 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
AGSM	27.1	1.4	52.72	20.0	63.55	3.18	2.35	305.04
AGCR	5.0	0.2	9.73	2.0	10.51	5.25	2.10	50.45
POSE	8.7	0.4	16.93	15.0	18.35	1.22	2.11	88.08
STCO	4.5	0.2	8.75	2.0	6.55	3.28	1.46	31.44
POFE	4.5	0.2	8.75	4.0	9.65	2.41	2.14	46.32
ANNUAL FORBS	0.7	---	----	7.0	7.55	1.08	10.79	36.24
PLSP	0.5	T	0.97	5.0	0.00	0.00	0.00	0.00
LEDE	0.2	T	0.39	2.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.9	---	----	7.0	3.74	0.53	4.16	17.95
MACA	0.5	T	0.97	1.0	0.00	0.00	0.00	0.00
ERPU	0.2	T	0.39	2.0	0.00	0.00	0.00	0.00
SPCO	0.1	T	0.19	1.0	0.00	0.00	0.00	0.00
CRE	0.1	T	0.19	1.0	0.00	0.00	0.00	0.00
*PHHO	1.0	0.0	----	1.0	----	----	----	-----
*OPPO	5.0	0.2	----	1.0	-----	----	----	-----
TOTAL		2.6	100.00		119.90			575.52

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #9 - Upper Gov't Draw Exclosure

October 15 to April 15 = 3.67
April 15 to July 1 = 3.32
July 1 to September 1 = 0.08
September 1 to October 15 = 0.63
Season Total = 7.70
Long Term Average = 8.01

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plots Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Upper Gov't Draw Exclosure Outside-Native 23 Aug. '69	Total Trans. Baaal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
*ARTR	124.0	6.2	----	7.0	----	----	----	-----
POSE	32.2	1.6	67.22	18.0	23.74	1.32	0.74	113.95
POFE	2.0	0.1	4.18	1.0	2.20	2.20	1.10	10.56
KOCR	1.6	T	3.34	4.0	4.65	1.16	2.91	22.32
AGSM	7.7	0.4	16.08	19.0	29.40	1.55	3.82	141.12
ANNUAL FORBS	3.8	---	----	13.0	10.92	0.84	2.87	52.42
PLSP	3.8	0.2	7.93	13.0	0.00	0.00	0.00	00.00
PERENNIAL FORBS	10.4	---	----	18.0	2.49	0.14	0.24	11.95
ERPU	0.2	T	0.42	2.0	0.00	0.00	0.00	0.00
SPCO	0.4	T	0.84	4.0	0.00	0.00	0.00	0.00
*ANRO	0.5	T	----	1.0	----	----	----	-----
*PHHO	9.3	0.5	----	11.0	----	----	----	-----
TOTAL		2.4	100.00		73.40			352.32

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	5%

Total production adjusted to 359.75 lbs.

Precipitation Data

R.G. #9 - Upper Gov't Draw Exclosure

October 15 to April 15	=	3.67
April 15 to July 1	=	3.32
July 1 to September 1	=	0.08
September 1 to October 15	=	0.63
Season Total	=	7.70
Long Term Average	=	8.01

HERBAGE AND PRECIPITATION DATA FROM WYOMING HALOGETON EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 1 No. Plots 20

Cover Determined by Area Estimate

Upper Gov't Draw Exclosure Outside-Spray 23 Aug. '69	Total Trans. Basal Area Percent	Average Percent Basal Area	Percent Compo-sition	Absolute Plot Frequency % Base 20	Total Weight Gms/20/ Sq. ft.	Average Weight Per Plot Occur-rences F ÷ E	Wgt./ Unit Basal Area F ÷ E	Pounds Per Acre F x 4.8
	A	B	C	E	F	G	H	I
AGSM	18.0	0.9	38.88	1.0	40.02	40.02	2.22	192.10
POSE	24.8	1.2	53.56	20.0	22.19	1.11	0.89	106.51
POFE	2.2	0.1	4.75	5.0	5.01	1.00	2.28	24.05
ANNUAL FORBS	1.2	---	----	12.0	7.07	0.59	5.89	33.94
PLSP	0.9	T	1.94	9.0	0.00	0.00	0.00	0.00
LARE	0.3	T	0.65	3.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	0.1	---	----	1.0	0.20	0.20	2.00	0.96
PEN	0.1	T	0.22	1.0	0.00	0.00	0.00	0.00
TOTAL		2.3	100.00		74.49			357.55

*Not computed in percent composition

T - Trace

Utilization Estimates at Time of Clipping

AGSM	15%

Total Production adjusted to 391.45 lbs.

Production Data
R.G. #9 - Upper Gov't Draw Exclosure
October 15 to April 15 = 3.67
April 15 to July 1 = 3.32
July 1 to September 1 = 0.08
September 1 to October 15 = 0.63
Season Total = 7.70
Long Term Average = 8.01

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with
Three 1'x1' Clip Plots

Plots Size 1 x 10

No. Subplots 60

West Pasture Exclosure Inside-Native 8 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	268.0	4.5	72.39	0.27
ARSP	68.9	1.1	5.94	0.09
ARPE	1.5	T	0.71	0.47
SIHY	65.7	1.1	64.44	0.98
POSE	17.7	0.3	7.80	0.44
ORHY	18.1	0.3	21.95	1.21
SPCR	25.8	0.4	19.00	0.74
KOCR	6.2	0.1	11.23	1.81
SCPA	2.0	T	1.82	0.91
ANNUAL FORBS	9.8	---	17.68	1.80
MATA	8.4	0.1	17.68	1.80
LEDE	0.4	T	0.00	0.00
PLPA	1.0	T	0.00	0.00
PERENNIAL FORBS	1.2	---	2.04	1.70
MACA	1.0	T	0.00	0.00
MUDI	0.2	T	0.00	0.00
*OPPO	50.0	0.8	----	----
TOTAL		8.1	225.00	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

West Pasture Exclosure Inside-Native 8 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Compo-sition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occur-rences Base 200	Wgt./ Unit Basal Area Base 60	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	768.6	3.8	52.36	101.0	207.61	0.72	0.27	99.65
ARSP	159.2	0.8	10.85	46.0	13.72	0.13	0.09	6.59
ARPE	3.5	T	0.24	4.0	1.66	0.18	0.47	0.80
SIHY	234.4	1.2	15.97	166.0	229.90	0.39	0.98	110.35
POSE	63.1	0.3	4.30	51.0	27.81	0.15	0.44	13.35
ORHY	70.2	0.4	4.78	44.0	85.13	0.50	1.21	40.86
SPCR	117.1	0.6	7.98	102.0	86.24	0.19	0.74	41.39
KOCR	13.2	T	0.90	56.0	23.91	0.20	1.81	11.48
SCPA	2.0	T	0.14	1.0	1.82	1.82	0.91	0.87
ANNUAL FORBS	34.7	---	----	123.0	62.60	0.14	1.80	30.05
MATA	31.7	0.2	2.16	118.0	0.00	0.00	0.00	0.00
LEDE	1.1	T	T	11.0	0.00	0.00	0.00	0.00
PLPA	1.9	T	0.13	19.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	1.9	---	----	15.0	3.23	0.14	1.70	1.55
MACA	1.1	T	T	7.0	0.00	0.00	0.00	0.00
MUDI	0.8	T	T	8.0	0.00	0.00	0.00	0.00
*OPPO	313.1	1.6	----	38.0	----	----	----	----
TOTAL		7.3	100.00		743.63			356.94

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #13 - West Pasture Exclosure
October 15 to April 15 = 1.38
April 15 to July 1 = 2.30*
July 1 to September 1 = 0.15
September 1 to October 15 = 0.00
Season Total = 3.83
Long Term Average = 6.70

*Estimate

DERIVATION OF WEIGHT/UNIT BASAL AREA-BASE 60
Each of Twenty 1'x1' Plots Subsampled with
Three 1'x1' Clip Plots

Plots Size 1 x 10 No. Subplots 60

West Pasture Exclosure Outside-Native 8 July '69	Total Trans. Basal Area Base 60	Average Percent Basal Area Base 60	Total Weight Grams/60 /Sq. ft.	Weight Per Unit Basal Area Base 60
ATNU	231.6	3.9	70.15	0.30
ARSP	24.1	0.4	3.87	0.16
ARPE	13.1	0.2	3.61	0.28
SIHY	43.8	0.7	25.18	0.57
BOGR	5.0	T	5.00	1.00
ORHY	20.7	0.3	6.37	0.31
KOCR	29.8	0.5	25.24	0.85
AGSM	0.1	T	0.04	0.40
POSE	27.6	0.5	7.33	0.27
SPCR	36.8	0.6	11.20	0.30
ANNUAL FORBS	23.6	---	27.19	1.15
MATA	18.6	0.3	0.00	0.00
LARE	0.5	T	0.00	0.00
LEDE	0.6	T	0.00	0.00
EUSE	0.7	T	0.00	0.00
PLPA	3.2	T	0.00	0.00
PERENNIAL FORBS	1.0	---	0.32	0.32
CRE	0.1	T	0.00	0.00
MACA	0.8	T	0.00	0.00
MUDI	0.1	T	0.00	0.00
*OPPO	126.0	2.1	----	----
TOTAL		7.6	185.50	

T - Trace

HERBAGE AND PRECIPITATION DATA FROM WYOMING EXCLOSURE STUDIES (PLOTS LOCATED SYSTEMATICALLY AND WEIGHTS ON OVEN DRY BASIS)

Plot Size 1 x 10 No. Subplots Adjusted to 200

Cover Determined by Area Estimate

West Pasture Exclosure Outside-Native 8 July '69	Total Trans. Basal Area Base 200	Average Basal Area Base 200	Percent Composition Base 200	Absolute Plot Frequency Base 200	Est. Weight Gms/200 Sq. ft. Base 200	Est. Weight Per Plot Occurrences Base 200	Wgt./ Unit Basal Area Base 20	Est. Pounds Per Acre
	A	B	C	E	F	G	H	I
ATNU	636.7	3.2	44.92	101.0	192.85	0.69	0.30	92.57
ARSP	129.0	0.6	9.10	48.0	20.71	0.08	0.16	9.94
ARPE	59.6	0.3	4.20	9.0	16.42	0.40	0.28	7.88
SIHY	141.6	0.7	9.99	108.0	81.40	0.23	0.57	39.07
BOGR	10.8	T	0.76	10.0	10.80	0.50	1.00	5.18
ORHY	78.3	0.4	5.52	40.0	24.10	0.16	0.31	11.57
KOCR	93.0	0.5	6.56	170.0	78.77	0.15	0.85	37.81
AGSM	0.1	T	T	1.0	0.04	0.04	0.40	0.02
POSE	113.5	0.6	8.01	54.0	30.14	0.14	0.27	14.47
SPCR	93.3	0.5	6.58	76.0	28.40	0.15	0.30	13.63
ANNUAL FORBS	59.0	---	----	150.0	67.98	0.18	1.15	32.63
MATA	51.7	0.3	3.65	144.0	0.00	0.00	0.00	0.00
LARE	0.7	T	T	7.0	0.00	0.00	0.00	0.00
LEDE	1.4	T	T	14.0	0.00	0.00	0.00	0.00
EUSE	0.2	T	T	2.0	0.00	0.00	0.00	0.00
PLPA	4.8	T	0.34	36.0	0.00	0.00	0.00	0.00
PERENNIAL FORBS	2.8	---	----	20.0	0.90	0.02	0.32	0.43
CRE	0.2	T	T	2.0	0.00	0.00	0.00	0.00
MACA	0.5	T	0.15	13.0	0.00	0.00	0.00	0.00
MUDI	0.5	T	T	5.0	0.00	0.00	0.00	0.00
*OPPO	559.8	2.8	----	48.0	----	----	----	----
Total		7.1	100.00		552.51			265.20

*Not computed in percent composition

T - Trace

Precipitation Data

R.G. #13 - West Pasture Exclosure

October 15 to April 15 = 1.38
April 15 to July 1 = 2.30*
July 1 to September 1 = 0.15
September 1 to October 15 = 0.00
Season Total = 3.83
Long Term Average = 6.70

*Estimate

BLM LIBRARY
RS 150A BLDG. 50
DENVER FEDERAL CENTER
P.O. BOX 25047
DENVER, CO 80225

PROPERTY OF
Bureau of Land Management
DSC LIBRARY

BLM LIBRARY
RS 150A BLDG. 50
DENVER FEDERAL CENTER
P.O. BOX 25047
DENVER, CO 80225

BLM Library
Denver Federal Center
Bldg. 50, OC-521
P.O. Box 25047
Denver, CO 80225